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Fracture of the Humerus in Children

JACOB GROSSMAN, M. D.

ATTENDING ORTHOPEDIST SHIELD OF DAVID ORPHANAGE, CHIEF OF THE ORTHOPEDIC CLINIC LEBANON HOSPITAL,
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New York

UPPER END

The upper end of the humerus has three centers for ossification: the head, appearing at the sixth or eighth month; and the greater and lesser tuberosities, appearing from the third to the fourth year. These unite at about the sixth year into one big epiphysis. This epiphysis is of great importance, as it is a common seat of injury.

Surgical Neck: This is usually a fracture from abduction from direct force (blow or fall upon the shoulder).

The short upper fragment is rotated outward by the supraspinatus, infraspinatus and teres minor muscles, while the lower fragment is pulled inward by the pectoralis and latissimus dorsi muscles and elevated by the deltoid muscle, so that the arm appears to be in adduction, the same as in typical dislocation of the shoulder. The abnormal motility, crepitation and palpation in the axilla and of the socket will explain the condition even without an X-ray picture.

A simple dislocation of the shoulder-joint is extremely rare in children and in apparent dislocation one must always think of this fracture and look for the torn-off head in the socket.

SEPARATION OF THE UPPER HUMERAL EPIPHYSIS

The separation of the upper humeral epiphysis will not necessarily open the joint cavity, for the capsular ligament is firmly attached to the epiphysis and the synovial membrane is but loosely attached to the diaphysis.

The line of separation of the upper epiphysis of the humerus begins on the inner side of the head of the bone and runs across almost horizontally, rising toward the center of the shaft and ends in the outer side of the bone, so that the epiphysis includes the tuberosities.

This happens in young individuals, but never before the sixth year and never after the twentieth. The most frequent period is between the ages of nine and seventeen years. Ordinarily, the upper end of the lower fragment projects forward and inward, producing a characteristic deformity. This injury may occur either with or without displacement of the shaft of the bone, depending upon the force causing the injury and upon the muscular pull. The signs are a little like those attending a fracture of the surgical neck of the humerus. There may be no displacement at first and after a few days a distinct displacement appears, especially if no attempt is made to immobilize the shoulder. The displacement may be partial or complete. Partial displacement is more common than complete. The head of the bone is in the glenoid fossa, but rotated by the muscles attached to it so that its articular surface looks downward. It does not rotate with the shaft. The crepitus is of a softer quality than in cases of fracture. Localized pain and swelling are present. A puckering of the skin, caused by the hooking of the lower fragment into the skin, is characteristic. Palpation reveals the upper end of the shaft as a comparatively smooth surface, unlike the end of a fractured bone. The shoulder maintains its rounded natural appearance. Grasping the head of the humerus,

angular movement of the humeral shaft will fail to move the head, whereas rotatory movement may move it. An absence of shortening of the upper arm means absence of great displacement and untorso periosteum. A high lesion near the joint in a young patient, showing displacement forward and inward of the shaft, is very suggestive of epiphyseal separation.

FRACTURES OF THE DIAPHYSIS OF THE HUMERUS

These are especially frequent in the new-born and are caused by muscular action and intrapartum manipulations. The fracture is usually transverse, about the middle of diaphysis.

Occasionally we observe greenstick fractures in young infants (rickets). In older children we find more frequently the oblique fractures, as in adults. In one of our cases, a transverse fracture occurred in a child who had been the victim of anterior poliomyelitis.

The most important symptoms are loss of function, well-localized pain, the angulation in incomplete fractures, the abnormal mobility and crepitation in complete ones, and the shortening of the arm. The amount of dislocation depends upon the site of the fracture or upon the change in muscular action from separation.

TREATMENT: EPIPHYSEAL SEPARATION

When there is no displacement, immobilization of the shoulder-joint is indicated.

When there is but slight displacement, firm pressure with traction will ordinarily correct the deformity.

When there is much displacement, reduction is often not only difficult to effect but sometimes impossible without operative interference.

The chief obstacles of reduction are the capsule of the joint, the bands of periosteum or fascia or muscles or tendons of the long head of biceps caught between the fragments. In operating it may be necessary to resect the head of the bone or to simply divide or displace the parts preventing reduction. In almost no instance can it be determined before operating exactly what procedure will be followed.

PROGNOSIS

Usually union occurs, if there is no displacement or only slight displacement, without deformity and with a functionally useful shoulder. If there is great displacement, deformity and impairment of motion will persist if reduction is not complete. The growth of the humerus may be seriously interfered with if an unreduced displacement is allowed to remain untreated.

SURGICAL AND ANATOMICAL NECK

The first retentive dressing should be applied with the assistance of an anaesthetic. Traction, countertraction and manipulation will secure coaptation of the fragments. To hold these fragments securely is difficult. To hold a separation of the upper epiphysis in position may be impossible without operative assistance. To hold any of these fractures without operative interference may be impossible.

The following is the best and simplest method of treatment. The upper arm, shoulder and trunk should be thoroughly powdered. The hand, forearm and elbow should be bandaged evenly, smoothly and firmly with a flannel bandage, not cut on the bias. A V-shaped pad, with the apex of the V in the axilla, constructed of sheet wadding with card board outside and covered with cotton cloth, should be placed in the axilla of the injured side. This pad is firm and fitted to the trunk in order to support the inner side of the upper arm. If it is necessary, a thin coaptation splint may be placed between this pad and the inner side of the upper arm for more direct support. The forearm is held flexed. The shoulder is

now padded with one layer of sheet wadding. A plaster-of-Paris shoulder-cap is applied so as to cover the entire shoulder, the anterior and posterior aspects of the chest and the outer side of the upper arm down to the external condyle of the humerus. This shoulder-cap is made of washed crinoline, six layers thick, into which has been rubbed plaster-of-Paris cream. A gauze bandage encircling the trunk, arms and shoulders should be used, in order to hold the upper arm at the side and closely applied to the coaptation splint and the axillary pad and in order to secure the shoulder-pad in place.

Often better than the plain gauze bandage is a roller bandage of unwashed crinoline, which is applied just after dipping it in luke warm water. The starch of the crinoline bandage after being wet, stiffens the crinoline, which is applied just after dipping it in luke warm water. The starch of the crinoline bandage after being wet, stiffens the crinoline as it dries and makes a particularly firm and efficient dressing. A towel folded thin or a piece of compress cloth should be placed against the trunk upon the well side. Against this the circular turns of the bandage rest, thus causing less discomfort to the patient than if they bear directly upon the chest. The forearm is supported by a sling. With this method of immobilization no active traction is exerted upon the lower fragment. The weight of the arm being unsupported at the elbow, exerts slight traction.

On account of the absence of active traction, ambulatory apparatus cannot hold a fracture of the shoulder properly if there is much displacement; particularly if the fracture is oblique. Ambulatory apparatus can modify muscular action, insure quiet and rest to the part and except in the instances just noted, approximately maintain the position secured by manipulation and traction and counter-traction. On account of its limitations, therefore, it is important that apparatus should be removed at regular and frequent intervals and that the entire shoulder be examined in order to determine errors in position and if possible, to correct them.

Ordinarily, the great swelling associated with this injury disappears in ten days to two weeks. As the swelling subsides, the normal contour of the shoulder becomes apparent again. It is necessary, therefore, to alter the shoulder-splint and apply a new one. When the patient wearing a shoulder-cap lies down, there is a tendency for the shoulder-cap to ride up and away from the shoulder. This can be guarded against by carrying the retaining bandages under the axillary pad and well over the shoulder.

Pressure points should be carefully watched and the pressure removed. In the course of treatment in a single case this change of dressing will have to be made about two or three times. Union will be firm in about three weeks. As soon as the union is firm, all splints may be omitted. The forearm should then be held by a sling supporting the wrist. In these injuries about the shoulder-joint passive movement should be made rather early. At the end of two and a half weeks repair will have proceeded far enough to allow of the gentlest movement without causing any displacement of the fragments. The sooner these gentle movements can be resumed at regular intervals, the more rapidly the shoulder will improve. The common occurrence of a peri-arthritis after an injury to the shoulder emphasizes the necessity of massage. It should be begun as early as the first week.

PROGNOSIS AND RESULT

In young subjects a useful arm will result. At first, if there is great difficulty in maintaining the reduction of fragments, a poor result will be evident, however, efforts at retention should be persisted in, also early passive

movement, gradually the movements will return and to a surprising degree.

In separation of the epiphysis bony union is to be expected. If there is little or no displacement of fragments, complete restoration of function will result. If there is some deformity remaining after consolidation of the fracture, the usefulness of the shoulder is ultimately and usually restored. The deformity becomes less apparent as the sharp bony corners are smoothed off by the newly forming callus. It is not to be forgotten in considering the prognosis after all shoulder injuries that much of the persisting disability may result from too prolonged immobilization of the arm, even though bony displacement may not have been very great. The growth of the shaft of the humerus in length proceeds largely from the upper epiphysis. It has been thought by many that an arrest of growth of the humerus will follow separation of the upper epiphysis. A loss of growth is not likely to occur, but may follow injury to the upper humeral epiphysis.

OBLIQUE FRACTURE OF THE SURGICAL NECK WITH GREAT DISPLACEMENT

This fracture can sometimes be held by placing the patient in bed upon the back and making direct traction to the upper arm and counter traction upon the shoulder by weight and pulley. If the fracture cannot be easily held reduced, it will be advantageous to make the closed fracture an open one and to unite the two fragments by suture.

FRACTURE OF THE SHAFT OF THE HUMERUS

For purposes of treatment, fractures of the shaft may be grouped into those with little or no displacement and those with considerable displacement and difficult of retention after reduction. The fracture should be reduced by traction upon the condyles of the humerus and countertraction upon the upper arm and by manipulation of the fractured bones.

Where there is little or no displacement the following materials are required for the apparatus to be used. Ordinary dusting powder, a bandage of Shaker flannel three inches wide, not cut on the bias, an axillary pad made with several layers of sheet wadding covered with a folded piece of pasteboard and the whole enclosed in cotton cloth stitched at the edges. The pad is V-shaped and long enough to extend from the apex of the axilla to just above the internal condyle of the humerus. It is broad enough to support the upper arm comfortably and securely. The lower part of the pad is about three inches thick so as to support the arm only a trifle abducted from the side, that is, just away from the perpendicular. If the axillary pad is too short, there is danger of causing an outward bowing of the humerus.

Two straps are attached to the upper corners of the apex of the V-shaped pad long enough to surround the body and go over the opposite shoulder. These straps hold the pad in position. The remaining apparatus consists of two or three thin coaptation splints for application to the upper arm. These are made by laying a thin splint wood upon adhesive plaster and splitting the wood longitudinally. Three adhesive straps two inches wide to hold the coaptation splints and an adhesive plaster swathe wide enough to extend from the acromion tip to the external condyle and long enough to surround the body and the arm. A sling, made from a thin towel or a thin piece of compress cloth for the forearm to rest upon.

In unmanageable young children it may be necessary to use an anesthetic. The entire upper extremity, axilla and chest should be washed with soap and water, thoroughly dried and dusted with powder. The reduced

fracture is then held in position by an assistant while the apparatus is being applied. The hand, forearm and elbow should be snugly and evenly covered by the flannel bandage. The upper arm should be surrounded by coaptation splints, held in place by the three straps of adhesive plaster, so as to secure the fractured bone perfectly. The axillary pad should be placed in the axilla and held by the straps passed over the opposite shoulder and under the opposite axilla. The upper arm should rest comfortably upon the pad. To prevent chafing, the thin towel or compress cloth should be placed beneath the forearm where it touches the body. The plaster swathe should then be applied over the arm to the body, so as to completely encircle the trunk. Thus the arm is absolutely fixed to the axillary pad and side. The wrist should be supported in a sling passed around the neck. The elbow is left unsupported. The weight of the upper extremity will thus tend to exert slight downward traction upon the lower fragment of the humerus. The elbow-joint should not be immobilized for the reason that it would then be much more difficult to hold the seat of fracture fixed. With the elbow fixed, the lower arm of the lever is greatly increased and instead of movement of the forearm taking place at the elbow-joint it would take place at the seat of fracture. Fractures of the shaft of the humerus are frequently treated by an internal angular splint and coaptation splints the upper end of the splint barely reaching the fracture, or, at best, being an inch or two above it.

When the fracture of the bone is within the lower third of the shaft, then and then only should an internal angular splint be used in connection with coaptation splints.

The patient should be seen each day for the first three days so as to observe the parts carefully. There may be undue pressure. The patient may be uncomfortable. The splints may require readjusting. Attention to the little details of discomfort is important. The dressing should be re-applied with great care once each week. The parts covered by the splints should at each dressing be carefully inspected for points of undue pressure, indicated by the reddening of the skin. If these are discovered, they should be washed with alcohol and covered with flexible collodion or a drying powder. The undue pressure should be removed by shifting the padding. Union will be found to be firm after three weeks. As soon as union is solid the swathe may be omitted, the coaptation splints alone being sufficient support.

After about three and a half weeks all support may be removed from the arm. The arm is then placed in the sleeve of the clothes and the wrist supported by a sling. After six weeks the sling may be discarded and moderate and careful use of the limb in light movements be indulged in.

FRACTURE OF THE SHAFT OF THE HUMERUS WITH CONSIDERABLE DISPLACEMENT

Obviously, the method described for the treatment of fractures without great displacement will be of comparatively little value. Occasionally, it will be found that this method will hold even greatly displaced fractures; it should then be used. The ideally perfect method for such cases is traction and countertraction upon the arm with the patient lying upon the back in bed. Coaptation splints should be used, as in simple uncomplicated fractures. If all the methods fail to hold the fragments reduced, open incision, reduction of the displacement and suture of the fragments are indicated.

The plaster-of-Paris splint, applied with the plaster roller to the forearm and arm and spica bandage to the

(Concluded on page 249)

The Error of the Axillary Support

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The crutches and orthopedic corsets with axillary props, which came into use about a hundred years ago, are still so frequently employed that we find it necessary to demonstrate—common sense admits it right away—the danger of such instruments.

The weight of the superior part of the body, leaning



FIG. 1

on these props, can bring about disorders of great importance.

If, in walking on crutches, the patient could divide the weight of the body between the upper crescent of the crutches and the cross-pieces on which the hands lean, the efforts being shared, the compressive phenomena would provoke consequences of smaller importance.

Unfortunately, if through an athletic effort at establishing such a balance, the impotent patient can, for a short while, equilibrate this load, this acrobaticism can only be of brief duration.

Indeed, it is easy to realize what great efforts the wrists will have to make in order to support 60 to 80 kgs. The wrists yield and soon are placed in hyperextension, so that the palm of the hand receives the total weight of the body, less the help given by the axillary support. In any case, the compression of the palm rapidly produces circulatory and nervous disturbances. So, in whatever way the patients walk on crutches, with the exception of some athletes, who walk on in continual forced adjustment, their use is particularly dangerous.

Canes exist with forearm props and even plain sticks which can, to great advantage, take the place of crutches. They are seldom used, but is there anything more difficult to fight against than routine?

The corset provided with axillary props (fig. 1) is just as harmful and far from supporting the vertebral col-

umn; we shall see, on the contrary, how it allows it to sink in.

For one thing, we have all noticed that the patients who wear corsets with axillary props often show cyanosis of the extremities of the limbs, feel "pins and needles," and sometimes have a real paretic impotence of the hands.

They also have a very characteristic "coat-hanger attitude" which increases the more they lean on their armpits.

But these drawbacks, however serious they may be, would assume secondary importance if these orthopedic appliances really did prop the vertebrae column.

That is not the case, in the least.

Let us consider figure 2 and the photographic demonstration in fig. 3: a steel-bar, broken in its center and placed on the back of the patient according to the line of the shoulders. Its axis is supported by a link passing over the head and fastened in front of the belt. The two extremities are connected with the shoulders, by means of a moulded aluminum tape. Force P weighs on the center of the broken line, in coincidence with the vertebral axis. At O, acting vertically on the vertebral axis, is the application point of the force equal to the weight of the head, shoulders and arms. This force very nearly equals 3/10th of the total weight of the body, which means that for a person weighing 60 kgs., weight P would be 20 kgs.

In order to counterbalance the action of weight P, the axillary props ought to determine a vertical reaction from the bottom towards the top, the sum of which should equal P. In other words, each prop ought to call forth a reaction of 10 kgs. at the level of the armpits. Thus, the vertebral disks would not undergo the sinking which is provoked by the upper load of the body imposed upon

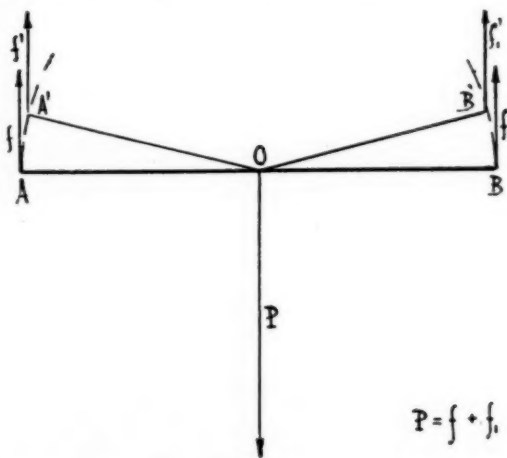


FIG. 2

them as a whole; if the props gave a greater reaction, they would raise the shoulders, consequently the vertebral axis.

But what occurs? Whatever may be the vertical reaction from bottom towards top, the point of application of the force does not change. Line A O B becomes A' O B' but point O does not change. And if we con-

sider the demonstrative diagram, we notice that the shoulders have been raised, but that the axis of the broken bar has not moved.

The pressure remains the same so that its deforming



FIG. 3

effect has for its only limit the muscular elongation. Normally, the elasticity of the scapular muscles allows a raising of the shoulders of about 7cm. This raising can be exaggerated but the vertebral column will be no less "sunk in" for it.

Pictures 4 and 5 are surely convincing enough. They represent a young girl stricken with Potts' disease, who has worn stays with axillary props for several years. The vertebral sinking is considerable; the gibbousness shows it sufficiently. How will the spinal marrow, in the medullary canal, stand this bend?

If instead of wearing this dangerous and "prehistoric" device, this girl had been properly held up—after the critical period of her bone-affection spent in a plaster apparatus in dorsal decubitus—by rational stays, her vertebral axis would probably not have suffered such sinking.

As we happen to have used the words "plaster apparatus", we ask leave to state that the extending of the vertebral column, in the aim of making the plaster, does not escape our criticism.

Some practitioners still suspend the patients, in order to plaster them, with a chin-piece and axillary crescents. The prop of the crescents will not in the least change the position of the vertebral disks. The ancient suspending apparatus of Sayre, which has martyred many patients stricken with scoliosis, rachitism and Potts' disease, ought to be abandoned.

Crutches and axillary props are contrary to common sense.

Just as with the crutches, there is the necessity of changing the stays with axillary supports.

The very shape of the thorax, a reversed cone, laying on the structures, intermediate to the pelvic basin, gives the means of utilizing a belt as a constructive basis. Consequently, one should make corsets out of moulded plastic material, modeled after the mouldings

taken when in correct attitude, in celluloid cloth or in xyloplast or in poroplastic felt. In certain cases, it is possible to replace the plastic material by hammered aluminum—rather difficult to handle, but offering advantages in some cases.

Many are the artificers who still manufacture devices of this sort. It really is very desirable that those who, by ignorance or routine, still make up corsets with axillary props, in leather or drill, should promptly change their ways. The practitioners who are aware of the danger are guilty if they let such orthopedic heresy go

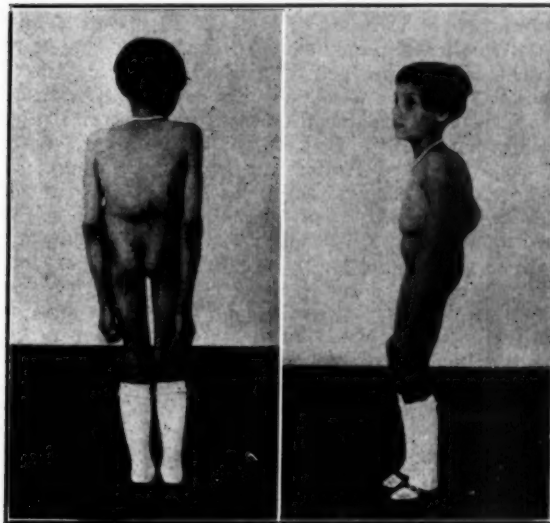


FIG. 5

FIG. 4

on. They ought to make sure that the advice they give to support the vertebral column will not be changed, without their knowing it, into a noxious action.

Ergotamine Treatment of Graves's Disease

The treatment of hyperthyroidism with ergotamine which has found favor on the continent, is based on the inhibitory action of this drug on the sympathetic system. E. Rothlin has shown that the vaso-constrictor effect of stimulating the cervical or splanchnic sympathetic by adrenalin is hindered or annulled by the previous administration of ergotamine, and that uterine contractions produced by adrenalin in the rabbit are also inhibited. Moreover, after the administration of ergotamine experimental adrenalin hyperglycemia is said not to occur. Dr. P. Sangiorgi has now published a series of ten cases of Graves's disease which seem to have improved a good deal under subcutaneous injections of tartrate of ergotamine, this improvement being maintained for some time after the treatment was discontinued. Tachycardia was the symptom most rapidly influenced, but it also was the first to reappear when administration of ergotamine was suspended. Increase of weight in the patients, who all followed their ordinary avocations, was regarded as a practical demonstration of the behavior of the basal metabolism under the influence of the drug, and the nervous symptoms were apparently to some extent controlled by the treatment, Sangiorgi's observations being here in agreement with those of J. Bouckaert. In none of the cases, however, did he notice any effect on the thyroid enlargement, when there was any. At first a dose of 0.25 mg. was given every morning; if this was well tolerated it was repeated in the evening. In no case did it seem advisable to exceed a dose of 0.5 mg. daily, and after 20 to 25 days administration of ergotamine was suspended for a week or two, preferably in women, at the time of the menstrual period. After the pause the treatment was then renewed for another period of 20 to 25 days. The first series was considered sufficient to establish the efficacy of the treatment, whilst the second consolidated it. Sometimes, if necessary, after a longer pause a further course of treatment was begun. The general conclusion to be drawn from Sangiorgi's observations if they can be confirmed, is that although ergotamine tartrate is not curative, in the full sense, it may nevertheless have its uses in appropriate cases of Graves's disease. It has also been employed for treating migraine.—*The Lancet*, June 29, 1929.

Ano-Rectal Infections*

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In order to understand the etiology, pathology and treatment of diseases of the rectum and anus, it is necessary to have some knowledge of the special embryology and anatomy of the pelvic organs and of the perineum. General surgical procedures often need to be modified when there is disease in this area because of the peculiar local conditions. For example, lancing an abscess and evacuating the pus generally is all that is required to initiate a cure in an acute purulent infection. On the contrary, while evacuating the pus of an ano-rectal abscess will relieve the pain that may be present, it will not initiate a cure and further surgery usually is necessary before the patient will be on the high road to recovery. Following the incision of a rectal abscess there will still remain an ano-rectal, rectal or anal fistula and the patient will be as badly off in a pathologic sense as he was in the first place.

In the development of the embryo a protrusion forms at the posterior, blind end of the enteric groove, forming the hind gut or rudimentary rectum. While this development is proceeding, a dimple, the proctodeum, is forming in the ectoderm and invaginating into the surface of the embryo toward the hind gut. This invagination continues until the outer and inner layers of the mesoderm are absorbed and the proctodeum and hind gut are separated only by a double septum. This septum is next absorbed and the junction of the anus and rectum then is complete, the union being in a narrow strip of tissue, transitional from mucous membrane to mucocutaneous tissue, which is called the ano-rectal or pectinate line and is the great landmark of proctology.

It will be seen at once that the anus and the rectum are two distinct organs, developing from different layers of the embryo and thus having distinct innervation and vascular supply and distinct lymphatic and venous drainage. The nerve supply of the rectum is from the sympathetic system and there is an absence of sensory fibres. Sensory nerves are present in abundance in the anus. The venous blood of the rectum is collected by the superior hemorrhoidal veins which empty into the mesenteric veins and thus into the portal circulation. The middle and inferior hemorrhoidal and the middle sacral veins, collecting blood from the anus, empty into the general circulation through the vena cava. There are numerous anastomoses connecting these sets of veins but the bulk of the venous blood is drained from the rectum and anus as has been stated. The lymphatics of the rectum drain into the sacral and hypogastric plexuses. Those of the anus drain principally into the area of the scrotum and thigh and finally unite with the inguinal lymphatics.

The ano-rectal (pectinate) line is the water shed that distinctly marks the boundaries of the two organs. Below this border is modified skin; above it is mucous membrane. In its circumference will be found tiny pockets with their openings pointing upward, the crypts of Morgagni. Between the crypts are the columns of Morgagni and the anal papillae, the latter being tiny, teat-like processes, covered with skin and containing sensory nerves. It is in the crypts of Morgagni that most rectal infections have their origin.

Billions of microorganisms make their home in the intestinal tract and among these sojourners there are likely to be staphylococci and streptococci, particularly if there happens to be a pyogenic infection in the teeth, tonsils, sinuses or elsewhere along the length of the gastro-intestinal tract. A hard stool or foreign material in the stool may cause traumatism at any time to one of the ano-rectal crypts and the pus-forming organisms will effect an entrance to the peri-rectal tissues. An abscess results, the pus burrowing into the ischio-rectal fossae or post-anal space if it remains superficial, or into the pelvi-rectal or retro-rectal spaces if it is able to penetrate above the levator ani muscle.

The commonest variety of the abscesses is the post-anal, the ischio-rectal being second in frequency, in my experience. This is due to the greater likelihood of traumatism to the posterior quadrant of the anus because of its weaker anatomical support. The fibres of the external sphincter muscle form a figure of eight anteriorly but back of the anus most of them divide to go to their insertion in the coccyx. Thus, in front, the anus has the support of the crossed fibres in addition to the support of the fibres that form a circular band about the organ.

The symptoms of the superficial abscess are the cardinal ones of an abscess anywhere about the surface of the body, namely, deformity, pain, redness and fever. The post-anal abscess causes a swelling over the tip of the coccyx and the ischio-rectal infection a swelling of the buttocks, in both cases quite painful to the touch. An incision into the deformity will bring about the evacuation of a few drops to several ounces of pus with immediate relief of the pain. Differentiation of the infection must be made from external thrombotic hemorrhoids and from anal fissure, both of which have pain as the predominant symptom. Inspection and palpation will clear up immediately any doubt as to the diagnosis.

The profound abscesses are somewhat harder to diagnose. Pain nerves are not involved so that, instead of pain, there is apt to be a sense of heaviness or a dull ache in the pelvis which cannot be localized by the patient. Swelling and deformity about the anus are not present. There is prostration and fever is present and these, combined with the ill-defined sensation in the pelvis, cause the surgeon to insert his finger into the rectum when he will feel a boggy mass encroaching on the lumen of the bowel. If this mass is incised, usually a large amount of pus will be evacuated, sometimes amounting to as much as a pint or more. This latter is a great differentiating sign. The ischio-rectal fossae or the post-anal space are not capable of being distended to hold more than several ounces of pus. If an obvious ischio-rectal abscess is punctured and a pint of pus is evacuated, the abscess must have penetrated above the levator ani muscle and produced a combination of ischio-rectal and pelvi-rectal abscess.

Whether the abscess is profound or superficial, the treatment is similar. The original point of infection, almost always in a crypt of Morgagni, must be located and divided through, preferably with the actual cautery to control hemorrhage. All overhanging tissue is then taken off and a flat, open wound is allowed to granulate from its base. Sutures should not be used as they inter-

* Read before the Aesculapius Club of Camden, N. J., October 19th, 1928.

ferre with drainage and are apt to add to the infection. If the offending crypt is not found at operation, it will be an unusual termination of the disease when the case gets entirely well and stays so.

Enough has been said to show that there is no essential difference between a rectal abscess and a rectal fistula. Every rectal abscess is a potential fistula from its inception and the fistula is merely the chronic stage of the acute infection. The moment an abscess ruptures or is incised, there is a fistula which is being reinfected constantly through the original point of infection in a crypt. The treatment of the condition is the total excision of the infected tissue with consequent free drainage, just as in the case of the abscess.

Members of the laity, and sometimes members of the medical profession as well, are likely to fear this complete operation because of the belief that fecal incontinence will result. True incontinence, unconscious defecation, is not a sequel of rectal disease or operation. When it is present it is a symptom of spinal disease, usually *tabes dorsalis*. Where packing is used persistently in a rectal wound, a groove will result so that the patient will leak liquid feces and will not be able to retain flatus. The same result will obtain when it is necessary to sacrifice most of the muscles because of a complicated fistula. However, in the usual case if the wound is allowed to fill in from its base without the interference of packing, the cut ends of muscle will be joined by scar tissue with a good functional result. It is always well to rule out the possibility of the patient having *tabes dorsalis* before operation so that one will not be blamed later and wrongfully for a fecal incontinence which did not exist before the operation. Where spinal innervation has not been impaired and where the sphincters and levator have been removed, it still is possible for the patient to have enough warning of an impending defecation to get to the proper place for it, provided he does not have a liquid or semi-liquid stool. This was true of a much-operated patient who was once under my care for a time.

Too much stress cannot be laid on the importance of adequately treating rectal infections. While pus is allowed to remain in any tissue of the body there are all the dangers of focal infection, of which the medical profession has become so aware in recent years. In addition to this danger, a long-neglected case of fistula about the rectum will spread its infection until all the peri-rectal tissues are involved and a progressive, inflammatory stricture of the rectum has developed. The patient's safeguard is an early and radical removal of the infected area with adequate drainage.

CONCLUSIONS:

1. Superficial ano-rectal abscesses are differentiated from the profound variety by the presence of pain and swelling and by the much smaller quantity of pus which can be present in the former.
2. Fistulas are chronic abscesses.
3. Treatment of ano-rectal infections consists in dividing through the infected crypt of Morgagni and excising the infected tissue with consequent free drainage.
4. True fecal incontinence does not result from rectal disease or operation.
5. Early and complete operation is imperative to guard against focal infection and rectal stricture.

1823 Spruce Street.

A Warning About Catgut

Do not purchase sutures or similar supplies from any individual not known to you as representing a reputable drug or supply company.—A. T. B. *Canad. M. A. J.*, Mich. 1929.

Fracture of the Humerus in Children

(Concluded from page 245)

shoulder and chest are often efficient in these difficult cases. In the application of this splint it is of supreme importance that an assistant hold the arm so that the alinement of the bones remains perfect. The assistant who holds the arm should have nothing else to do. Before applying the plaster-of-Paris splint it is often advisable to apply thin coaptation splints at the seat of fracture to give additional strength to the splint. With these coaptation splints in use a lighter plaster splint may be applied without sacrificing strength. A narrow cotton swathe about the body and arm should steady the upper extremity. The wrist should be supported by a sling.

In view of the possibility of non-union of this fracture, it will be judicious not to begin massage until union has begun. Passive motion to the shoulder and the elbow should be gently made at as early a date as possible, with due consideration to the condition of repair in the fracture. If at the end of two weeks union is found to have begun, it will be advisable to move the shoulder and elbow gently by passive motion. The seat of the fracture should be cautiously guarded against movement during these gentle manipulations. A little gentle passive motion of this sort repeated occasionally during the process of repair will assist very considerably in the restoration of the functional usefulness of the shoulder and elbow, which so often become stiff from immobilization.

PROGNOSIS

Ordinarily, union occurs in from two to three weeks. Fractures of this bone are more likely to be followed by non-union than fracture of any other bone in the body. The presence of abnormal mobility after a considerable time has elapsed is the sign of non-union by bone. Considerable muscular atrophy follows this fracture. Upon using the arm again and by massage the size of the arm is, in a great measure, restored. The stiffness of the shoulder and elbow which is occasionally associated with this injury is due to long immobilization without passive motion.

Fracture of the Shaft of the Humerus sometimes occurs in the newborn during delivery of afterward. The arm is best immobilized by thin coaptation splints. These splints may be as thin as six thicknesses of ordinary letter paper and may be made of cardboard. The humerus is completely surrounded by them. They are held firmly by adhesive plaster strips. If they are cut the right length and width, they may be applied most efficiently without padding. A liberal amount of drying powder should be rubbed on the arms and chest. A piece of compress cloth should be placed on the side of the chest under the injured arm, to prevent chafing. The upper arm is then held to the side of the chest by a gauze or other cloth swathe. Repair is rapid. Union is firm in about three weeks. Fracture of the humerus in the newborn is occasionally associated with obstetrical paralysis of the upper extremity. This paralysis should not be confounded with musculospiral paralysis.

1018 East 163rd Street.

Pure Water and Pure Milk Save Children

Fifteen thousand young children are probably being saved in Pennsylvania each year by the purification of water supplies and the inspection and pasteurization of milk, according to an estimate of the Pennsylvania Department of Health. During 1927 only about one-fifth as many children under five, in proportion to the population of that age in the state, died from diarrhea and enteritis as in the period from 1906 to 1910.—*Children's Bureau, United States Department of Labor.*

Convalescent Care as a Clinical Fine Art With Special Reference to the Needs of the Client

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The purpose of this paper is to furnish memoranda of half forgotten points of procedure and agreements between adviser and the candidate for fitness; also practical details of the what, why and how to do helpful things in securing full reestablishment of stamina. Above all getting fuller satisfactions out of living.

The occasions may arise after acute, subacute, protracted, chronic, even "incurable" disease; or merely uneasement, vague distresses; lowered tone or vigor. Or "a sticking point" may have arisen or "dead end" to be overcome somehow. A large group consists of "nervous complaints", or "invalidism", a composite of all the ills that flesh is heir to, the real and the unreal.

The chief phenomena are those of impaired capabilities, of initiative, of self confidence, of endurance. In short being "out of condition." Then the aim is to get back into condition or fitness; ready to make another start and retread the familiar path and resume customary doings.

The matter with the ailing person is having inadequate energy reserve; or—equally desirable—a "faulty hitch-up" between the power to do or to direct and control the doings.

The situations may be actual or real enough disablements, or of unreal or false ones through misconceptions; psychic inhibitions, or usually blends of both. Then it is quite obvious that the only, or the superior, way to secure reestablishment of functional or structural competence—fitness—is by doing the needful things.

Thereupon search should be made as to what is required and to supply that, or those groups of well attested measures, or those promising in the instance. Also to pursue them with constancy and persistency from start to finish.

It is common knowledge that when the utmost has been supplied by the scientific clinician through medication, there remains the effects of disease or of emotional commotions sufficient to obstruct restitution. These disablements or unfitnesses of body or mind tend to block the wheels of spontaneous convalescence. Thereupon help is required, restraints in many particulars. "Health habits." Often enough either the right things do not get done; or are done in wrong ways; not persistently enough or in the right proportions.

It has been my good fortune to have observed and practiced many of these fundamental trainings hence these remarks. In this enterprise the candidate has an equally responsible part to play with the medical adviser. So many items merit consideration that the following hints may serve a useful purpose in calling these to mind as: "rosemary for remembrance."

Intelligent convalescents by looking over this Outline could readily get a perspective of the situation as a whole; also come to realize the scope, the gravity, likewise the hopefulness of the task, if only they do their part conscientiously and keep under observation or in correspondence with the adviser long enough.

FOREWORD:

A summary is herein submitted of topics deserving consideration in attempting to do justice to so vast a sub-

ject as convalescence; which has points of contact with every ailment.

These hints should help three groups of readers: First: the ailing citizen, by making use of the practical explanations and recommendations offered on how to do his part in the joint enterprise. Second: the physician by recalling what he may already know, but which happened to escape attention for the moment, as "rosemary for remembrance"; and third: the intelligent nurse who would broaden and emphasize her accomplishments.

INTRODUCTION:

Convalescence is the period and process of growing stronger; climbing the up-grade of life energies when momentum has lessened; a sticking point; has occurred; delayed or retarded recovery, a threatened disintegration or incurability. The one necessary thing may not have been done or the right thing in the wrong way, or insufficiently.

The art of self direction during convalescence is, for the majority, a novel one involving grave responsibilities. We all work too much at a hit or miss.

The ordinary human being has abundant endowments; latent resources, on which to reckon while in health, and especially for regaining vigor after health impairment or loss; also for raising to a yet higher plane of stamina than theretofore.

The first step in the process upward is to learn what our resources are, and what proportion of these each one possesses. The field of endeavor includes that of structure and personality or temperament; also realities and unrealities; the true and the false.

THE HUMAN CONSTITUTION: WHAT IS IT?

The sum total of inherited gifts—better or worse—of body and also of mind and temperament.

For these "talents" man is accountable to his better self. He rewards or punishes himself in proportion as these are well used or abused or neglected. The man is more capable of alteration for better or worse during the malleable condition caused by a recent illness. Then effective rebuilding can be profitably done.

Constitution is a constant; it cannot be changed but can be conserved and often restored. There are also many variables deserving attention. They can be altered and should be improved. Types, peculiarities, qualities of make-up and wake-up, shape, proportion, coloring and other physical and mental patterns; also degrees of stamina and capacity for physical or mental performance.

THE HUMAN ENERGY EQUIPMENT

Life energies their generation, interpretation and renewals as the prime topic in convalescence.

Balanced hurry versus frantic speedingup. Always keep your hand on the steering gear and touch up the accelerator cautiously.

Depletion is fatigue: the acquired and the inherent forms. States of weakness, "asthenias", neurasthenias, psychasthenias, is the penalty of being born tired. The plus and minus states of real fatigue as causes of disablement and disease.

The sticking point. Critical corners are often met in the long lane of convalescence. They are best negotiated or avoided by saving energies in the day's routine. The largest economies are won through imperturbability; pauses in the rhythms enough to allow the energies to surge back to the combustion mechanisms and recharge the energy tanks or reservoirs. Thus destructive anxieties can be and should be eluded and command of the situation maintained.

The making, distributing, saving and renewing of energy under ordinary, and also extraordinary, circumstances; less or more.

Fluctuations from vigor to vanquishment; from weariness, stress and distress of fatigue passing on, if unrelieved, to exhaustion. Rest, sleep, freedom from excitement; a sense of hope to compensate from losses through disappointment or despair and their effects as hindrances or expeditors of recovery.

Sleep as energy renewer is second only to food and fluid. The special purposes and aims of the convalescent are to regain and maintain balance or flexible equilibrium. Certain familiar and unfamiliar distressful warning or encouraging phenomena and some not yet sufficiently familiar; or at least not heeded. Man is constructed and carries on much like a metal engine, but is distinguished by being a self directing, self stoking, self repairing and also a self medicating organism through the secretions of the regulating glands. Thus you see self responsibility is the first law of human nature.

DEFENSE AND REPAIR FORCES

Every active body cell is endowed with powers for self renewal and self repair, potent in proportion as the organism is vigorous or frail; is up to, or below, par; some are "human dynamos" and others are far below called "neurasthenics".

Balance is the resultant of impulses and responses; encouragers and restrainers; also persistence of self direction on which one can rely. Gains are thro natural impulses toward functional poise. Self guiding urges and restraints through instincts (unconscious intelligence), warning or encouraging signals or reassurances.

The dustless glands as governors of the human machine, and the suppliers of self formed medicaments. Many defense reflexes stand ready to work automatically such as vomiting, coughing, sneezing, winking, dodging and fleeing.

Pain, suffering, distress, serve as warning signals, to stimulate a wholesome revolt at disease causes; for arousing determination to get well and not become too reckless or fall into lethargy, or too patient in acceptance of what it would seem can't be cured.

Disturbances of sensation are premonitors; hunches are unreliable. Local pain is above all else a warning signal; an indicator of things going wrong somewhere or somehow. These of course deserve prompt relief on their own account but they demand radical investigation and removal of the cause. Many a valuable life has been lost through giving morphia when appendicitis was crying earnestly for operation. Some people enjoy suffering; are only happy while undergoing self or other flagellations; this is a phase of so-called hysteria.

RESOURCES

The Role of Foods, Fluids and Also Digestive Activities During Different Convalescent States and Steps.

The urgent conditions left after exhaustive illness are relative starvation, depletion from essential good materials (pabulum); also need for riddance from poisons, the direct and the indirect or relative; also water balance and retention.

These exhaustive effects fall heavily on the more delicate and vulnerable structures; especially the nerve messengers and their centers. It is confidently predicted on sound bases that remediation, in the near future, will consist chiefly of exact feeding—dietetics.

Of the rôle which drugs play, fully half are confined to aiding and abetting the forces and elaboration of nutrition. The products of the ductless glands, the secretions which regulate metabolism are, strictly speaking, self feedings.

Then there are the wonderful *super forces* which can be added to food materials, as to cod liver oil, to eggs, and to the hens that lay them, conferred by special rays.

Among the most significant facts in nutrition (metabolism) are the parts played by the dozen and a half of "mineral fertilizers," inorganic bases, essential to organic balance.

Convalescent Resources as Furnished by the Rest Cure. A type of grouped remedial resources suitable as the basis for recovery from exhausting states.

Resume of Dr. S. Weir Mitchell's methods of employing rest, isolation, selected feeding, graduated activities of mind and body; designed to reestablish the norm for that individual.

Especially effective are these in complex and retarded conditions; those due chiefly to hindering emotional habits; so-called "nervous invalidism."

If one were limited to a single grouping or picture for displaying the whole field of convalescent endeavor; for supplying the essential aims as well as the ways and means, and in a form most rational and effective, no better could—or can even now—be found than these methods. They embrace the main requisites for rebalancing the human organism.

The crux and rationale of these measures is the restoration of latent vigor in the powers of resistance, of self defense and self repair mechanisms; also the value of training; the only sure ways whereby any one can be made to gain and regain stamina and proficiency.

EFFICACIOUS SYSTEMS OF SIMULTANEOUS REMEDIATION AS DEVELOPED AT: WATER CURES, HEALING SPRINGS, SPAS SANITORIA

Various sanatoria exist in many lands devised as special convalescent centers, equipped with special baths and all sorts of curative waters and appliances. Selected diets, electrical contrivances, rest alternated with graded activities; movements induced (or done upon) and voluntary, (or done by), calculated to enhance convalescence to relieve incurable diseases, and amplify fitness. These systematized measures are of particular and perennial efficacy. They have been used from the earliest times, and among the simplest peoples, with unquestionable benefits. They can always be relied upon to help much.

Remedial Baths of the Simpler Forms.

Chiefly those which can be applied in any home by a nurse or willing member of the family under expert guidance or continued alone.

Hot and cold water taken within (swallowed) or applied from without, in the form of remedial baths, packs, douches, immersions. With these can be used stimulating substances as salt or alcohol, followed (or not) with some bland oil. Then there is one ever potent effects of dry skin frictions.

No tranquilizing measure is so efficacious as the "neutral immersion bath"—same temperature as the body; continued for an hour or more.

CONVALESCENT POTENCY OF SUN BATHS.

No more astonishing or promising resource has been opened up of late than the beneficent effects of light and

heat and special rays of the sun; solar radiance regulated to suit one's needs. They also carry some danger.

Air baths go with ray baths. The surface of the body must be exposed at the same time, same body area and the same weather. Some experts aver that the air bath is of as great value as the sun rays.

These irradiations do wonders directly upon the human, and also upon food materials; upon the egg, and the hen that lays the egg; upon milk and the cow who secretes the milk; especially upon plant foods, fruits, etc.

Convalescence Through Change of Scene, of Climate or Temperature; of Sojourn and Circumstances

These are of utmost value but expensive. The cost may be prohibitive.

Why not make your own climate? Ventilation of body through choice of clothing, as well as through airing the room. Also through dry skin friction night and morning. Exposure of skin surface to moving air and direct sunlight when skin is harsh or dry, followed by rubbing in cocoanut oil.

TEAM WORK

The essential condition for superior results is cooperation. The task of convalescent endeavor may occupy many years; but can be hastened by frank, fair, cordial give and take. It may be a duet, or as one of a group working harmoniously.

How do justice to convalescent situations? The invalid should aim to form a sense of proportion, should ask for written instructions and seek regular conferences; questions and answers, till confusions are removed.

Memories are short; comprehension elusive. Personal touch of the physician steadies; the stitch he can take in time saves ninety and nine; give and take; when and where to put in the stitch, or give the push, the pull, or the swing round, especially the waking up.

MIND-BODY-SPIRIT PLAYS AND INTERPLAYS OR RECIPROCITIES

Why and how is the mind so potent for weal or for woe in convalescence?

These direct and govern the wish, the aim, the purpose; act as initiative for plan and execution. Through them is power (life energy) turned on or off; through charge, discharge, and recharge; through impact and recoil as conditions change for the worse, or can be made to change for the better.

In particular note that our *feelings* about things are liable to exert far greater dominance than the things themselves. They influence conduct (what we do or don't do); also behavior (our reactions to emotions and notions); of the real or unreal; how and why they go wrong, slip, get in a snarl or tangle or "skid", or otherwise produce *dread*, as we fail to meet our expectations of ourselves.

The invariable aim of life forces, after getting under way and guiding motion, is to acquire *poise*, flexible equilibrium, a state of mobile tranquillity. Poise is the starting point of all effective effort. Through it we secure positions of advantage and elude those of disadvantage. Poise is the product of just enough urge one way, and just enough the other way, to balance. Then it can be turned off till called for whether for thought or for deed.

HABITS; GOOD OR BAD AS THEY INFLUENCE CONVALESCENCE

Customary ways of feeling, thinking and doing things or omitting to do them. Some are quite valuable in the saving of effort; others so pernicious they demand strong correction.

The way out is to watch your every step and acquire wisdom by experience. We can turn over to habit paths a large part of effort.

DISEASE: WHAT IS IT?

A phase of natural processes; a part of the great scheme of Nature; of racial evolution; not a thing apart. Nor is it a "visitation of divine wrath" or punishment. Disease is evidence of inadequate defense or repair forces, or their going wrong; on the down grade when slipping or failing.

Most diseases, or their worst effects, are man-made, hence can be by man not made, also to a great extent can be by man un-made. That is, the more evil effects can be reduced or turned aside by wise care. It has been shown by reliable statistics that by doubling the average stay of patients in hospitals the time of full recovery is reduced one-half. Dr. John Bryant.

Disease is—in so many particulars—beneficent it should be regarded as part of the scheme of correction. Nature is solicitous for the race, but not for the individual. Man's obligations to himself and the race are to find and use ways and means whereby he can best discharge them well and for his own best interests.

Man is the Most Superior "Going Concern" in *Animal Nature*: he continues to go straight—propelled by life momentum—in accord with animal (zoologic) rhythms; cycles of energizing, until his engine parts, machinery, contrivances, instrumentalities, get into trouble. *This is disease*. Then what to do at once, obey orders of experts till it subsides or comes under control.

Of equal importance: what to do during the up-grade, from *disease*, *unease to ease*, and how to do it effectively. Mechanical readaptation of framework to the insides is of as great importance as the inside soft parts cellular or nervous. No spare parts are obtainable hence the old ones must be made to again serve.

MAN AS A TRUSTEE OF INCOMPARABLE GIFTS:

Suitable for his needs as designed and elaborated, also for him to conserve and put to use as heretofore. For the use or abuse of these he is held responsible to himself. He must also abide by the consequences. He must do his full honest part—far above what is expected of an animal—in order to justify his unique gift of free will, or self determination, or to change his conduct or behavior for the better; at least enough to serve economic purposes.

DISEASE AND ITS RECOVERY PHASES:

Man is a living arena where a combat is being constantly waged from inception to death; between impulse or momentum to counter-poise or to cessation of life, in accord with zoologic limitation. This maximum age is at about 150 years. In order to achieve this end ideal conditions are essential. Are they even possible?

Disease in Its Familiar Types, Groupings and Outstanding Features:

(A) Acute; (B) protracted or half chronic, or lingering or obdurate; (C) chronic, and: (D) incurable or inevitable.

Disease of the body as distinguished graphically from disease of the mind or personality or so-called insanities. To be cured, compensated or disregarded.

Many mental diseases are—when met early enough—curable. More yet will soon become so when we learn enough about the cure of physical diseases. They are practically inseparable except for purposes of description; for noting characteristics and differences of degree in structural complications and alternations of causes and effects. When science answers certain constantly recurring questions, riddles, through critical researches, we shall be able

to limit many of the more destructive processes exerted upon the psyche (or self-soul-spirit) by destructive agencies via the vulnerable body.

Long before we reach a point where mental disease becomes established; and of fully equal significance to the family and society, there arise doubtful states which can be conveniently but not accurately grouped as "nervous", or emotional complaints; the real and the unreal. These are far more complex than many of those accredited to the mind and are here merely mentioned for symmetry.

One main cause of disease is energy squandering; the product of such destructive conditions as deep protracted fatigue passing on to exhaustion. Repair powers cannot be relied on when damage is wrought by too severe or too prolonged exertion. *Over work does kill.*

NERVOUS COMPLAINTS AS THEY COMPLICATE CONVALESCENCE:

With Remarks on the Natural History of the Nervous Complainer. We can agree that no problem of human welfare exceeds in significance mental or temperamental soundness or unsoundness. The above simple terms are used, being convenient, graphic and familiar. Nowhere is the true meaning of obscure things more distorted than the words used in describing these situations.

It is common knowledge (or ought to be) that what we feel about things, influences our lives far more than the things or circumstances themselves. In short, we are dominated by our emotions far more than by our reason. Few topics, if any, occupy so much attention in ordinary life as our emotions, especially our agitating, disquieting or distressful feelings. Few errors are graver than to reel off these impressions or confide them to any chance ear and to omit seeking a qualified adviser.

FALSE MENTAL AND EMOTIONAL ACTIONS AND REACTIONS:

Against these every one needs be vigilantly on guard. These include moodiness, queerness, and varied perturbations of the self or psyche; unusual or abnormal ways of regarding one's ailments and also their relationships to others; harmonies or separations of a social sort from the streams of normal livingness.

Such abnormalities of thinking, feeling, believing and doing create confusions for oneself and impatience, or scorn, or harmful sympathy in those with whom that one comes in contact. They are more emotional than mental or even physical. The origins of these confusions commonly start in body sicknesses, or on top of constitutional peculiarities or inborn defects. They are expressions of irregularities, disharmonies in energy saving and distribution.

No one art deserves higher appreciation than that of getting on serenely with the folks about. Bad behavior habits should be resolutely brought into the light and reformed. The mere effort to abrogate them goes far toward cure by readapting the self guiding or wish processes. Here firm disciplining is needed; always kindly but dominating; also a search back to such origins as mental and emotional shocks, conflicts, disappointments, soul-bruising. A full search is needed; a reaching down slowly and tactfully to the sore or disordered spots to explain and reconcile and heal them. Then to reshape or remould the psyche.

WHAT ARE NEURASTHENIA, PSYCHASTHENIA, HYSTERIA AND HYPOCHONDRIA?

Neurasthenia meant originally inherent weakness of the nerves; constitutional inadequacy. It has now become loaded down with implied meanings and diverted far astray till most people think it connotes some mental queerness. It should not. It is bad enough of itself

but can be greatly mitigated. The person and the personality can be strengthened through and by fixing.

Psychasthenia is weakness of the psyche—the self—not the mind—that may be brilliant—but the whole human fabric of that one is loosely hung, doesn't steer well, and won't stay on its course but floats about casually. "Steady" is the watchword; and continue to right ideals; "never say die," nor quit.

THE PSYCHE. What does the word mean? Simply the self as a whole. This may be divided into the inner self, the deeper or subconscious self, and the every-day or superficial or reasoning and blundering self.

The subconscious mind is a repository or "catch all" into which impressions made upon us through our sense organs become collected and usually forgotten. They can be brought back to where they can be put to work again; (to the "threshold of consciousness"). This process is still called memory or recollection. The power to recall is greatly fortified by repeating them often enough to fix them. The "verbalizing" exercises.

Hysteria: what is it; how can we identify its features and remedy them effectively?

The train of phenomena bear close resemblance to those vagaries of feeling and conduct accredited to: "female nature" when at its most bizarre; exaggerated forms; excessive responses to disturbing influences; a wandering at will along lines of little or no restraint. Such victims describe their woes with volubility, with evident relish, gusto; they enjoy their misery. Their sufferings are very real to themselves however lightly you may regard them. They deserve your sympathy up to a certain point—no further. The main thing is to win confidence and tactfully lead them "home."

Then comes tender discipline. The familiar forms these distresses and disabilities take or mirror, are boundless. They can imitate whatever malady they see or hear or imagine. These they dramatize vividly in order to astonish you and their family and friends and hope you will admire. They play up to "the part" or character selected, and often baffle the elect. Through the whole program there runs a streak of vanity; of exaggeration often over doing the part and thus they get caught.

It is like what is known in childhood queerness as exhibitionism, "watch me do this or that." They show a craving for attention, for coddling. To these symptoms is often added insensibilities; absence of normal perceptions, as to pain; can be stuck full of darts like a pin cushion; or endure destructive heat, burns. If they elect to fast, they seem to subsist on nothing. They live in a fool's paradise of false happiness.

Just as there is no sound where no ear is; as no light where no eye is; so is there no hysteric performance where no beholder or audience is.

What is *Hypochondria*? Just about the opposite of hysteria. It connotes extreme depression, apprehension as to imagined diseases whether present or suspected or imagined; tormented by gloomy fancies, fears, fictions, fixed ideas of woe; a horror of damage or dissolution.

WHAT IS PSYCHOANALYSIS?

It is a new, loudly extolled, but not yet confirmed method of delving deeply into the hidden chambers of the subconscious mind and bringing significant facts to "the threshold of consciousness"; not only forgotten ones but those hitherto regarded as of no importance. Reconciliation of these may now prove to be the only way of salvation. These take the form of repression—exerted from without—and of self suppression—exerted from within. They may be "too fixed" or too shifted; "substituted", sublimated, etc.

The object striven for is to empty the psychic reser-

voirs of confusing or damaging elements; of misinterpretations and for revealing to the analyst what he may need to know in his appraisal and to furnish the sufferer with clear comprehensions. Also to show ways and means for self emancipation.

Much benefit may follow the right kind of psychonalysis and much harm the wrong kind. It should only be done by an expert thoroughly trained, well balanced of ample experience, and "with an understanding heart." Some complex situations may only be negotiated by this radical procedure.

Convalescence from "Brain Fog", Mental Eclipse, "Nervous Prostration", Breakdown or Collapse:

The deeper effects and significance of fatigue produce over-stress, exhaustion of body and mind.

This situation is no mere skirmish, but an elaborate campaign. Every measure needed must be brought to bear on victory. Time, money, efforts expended are "no object"; economies are foolishness; may lead to mental or physical suicide.

They are all much the same, differing only in degree of severity and as mental or physical features, one or other, predominate.

CONVALESCENT HINDRANCES DUE TO UNENDURABLE FEAR OR DREAD: PSYCHIC SHOCKS:

Fear and dread, it should be realized, are primitive protective instincts and have their uses still.

Fear is anxiousness as to bodily harm; dread is like stage fright—anxiety lest one may fail to make good at a pinch, or crisis, or fail to satisfy one's expectation of oneself. The effect of *extremes* of either on the psyche may maim, paralyze or even destroy. Baseless apprehensions are as destructive as terrifying actualities.

CONVALESCENT ASSETS THROUGH VOLUNTARY AND INDUCED MOVEMENTS:

Corrective exercise: The beneficent potency of recovering impaired balance through movements done upon (induced) or done by oneself that is, voluntary performance. Together they furnish the chief quality of animal effectiveness; pliancy, limberness.

Movements done upon are popularly known by the vague term "massage"—only a meagre part of the large endeavor of manipulations. Movements done by are called "exercises" an equally inexact term. A good descriptive word is *Orthokinetics*: the straightening out through some modality of motion. Why are they so valuable, and here so emphasized?

The greatest enemy to health (functional effectiveness) is stagnation, or too long omission of, or suspension of, normal body movements. From neglect of these arise a state of stagnation or congestion (stasis); accumulations of waste materials formed in the blood containing poisons which act as retarders of chemical interchanges.

The chief source of life energy lies in the muscle cells. Each one of these is a miniature engine ready and willing and expecting to keep at work. "They always have their steam up." Unless they are kept at work—within due bounds—these little engines languish and grow less and less effective. The one thing to make them effective is to give them as much work to do as is sufficient to keep the engines and the machinery in good condition; balanced; poised. Either extreme is destructive—stagnation or attrition, or both.

The way muscles work is by alternately contracting and relaxing; in performing and pausing. Just *when* the contraction slows down and lets go—in order to make another turn—is *where and when energy is renewed*. Next in importance to *contraction* in the rhythms of life

is *suspension* of movement or pausing—rest and recuperation.

The value of training movements are fully justified for the benefits they confer. They make for the preservation of shape, proportion, tone, easeful carrying of the body load, regulating the mass weight and specific gravity. Chief of all needs is to *acquire mobile equilibrium or poise*, whereby energy renewals can be won while in the full tide of the day's work. If you are in balance throughout you are fulfilling the chief requirement of health. If you are out of balance you are disordered, sick, somehow or somewhere or some particular.

The first step in "clearing the deck for action" is the removal of obstructions to movements normal to the parts; in the several parts of the framework or skeleton, the bones, ligaments, tough structures, tendons, joints; in particular the backbone as the architectural center of the body; also of the skin. This series of normal movements—induced and voluntary—equalize blood distribution and return to the lungs and liver; also heat generation application and elimination ("Tissue respiration").

Corrective exercises made upon a part (induced or "passive", i. e., manipulation) should be followed immediately by voluntary movement of the part. This equalizes the whole reflex round or "cycle." In performing educative-curative movements (that is, retraining) always put on the power gradually and deliberately to full tension—whether in push, pull or move round. Then let go enough for the energy to surge back again. Thus is secured accuracy of aim, of direction and of velocity when kept under control.

POSTURE AND ATTITUDE:

Next to Integrity of Frame Work Parts Is: How Well Do They Work Together.

The economic importance of right ways and wrong ways of carrying the body is paramount, and any extra load, such as qualities of gait, of alertness, in getting from place to place, nimbleness in avoiding danger, as well as in doing the day's work so as to save enough power for tomorrow next month, and next year.

Posture is the picture of the framework showing through while at ease or in motion; in accord with the build, shape, type of conformation, proportion, tone of structures of that one; how fitted together. It is born with the creature.

Attitude is the sum of *acquired* adaptation assumed through compelling circumstances of work or doing any thing. It accounts for resulting deformations; of the unconscious, as well as of the conscious readaptations to whatever the situation (*posture*) may be or was as contrasted with what it ought to be.

Posture cannot be notably altered, except slightly as to shape, proportion, the effects of carrying the body load. *Attitudes* are almost endless variations. Habitual adaptations frequently require alterations in order to secure the best interests of the creature.

Upon observing any large group of children you will notice that a pitiful proportion have already become deformed in their *postures*; also in their *attitudes* which have become assumed for some reason or another—such as local weakness or defect of development or injury or mere imitation of the fashionable attitudes then prevailing.

The object of correction is to recover a nearer approach to the norm, as we conceive it to be. The purpose is to bring about economic adaptations of the body as a whole, but especially of those parts which contain vital organs (head, neck, chest, trunk, pelvis, etc.); also the tone of the muscular walls in order to afford support

to the contained organs and to encourage them to maintain their mutual positions thus enabling them to do their work better. Next to the economic importance of backbone balance is the balance of the feet. Foot troubles, such as weak arches, are frequent causes of "*Nervous Complaints*."

Restorative or convalescent, benefits can be won by a very little effort and time. The main objective here is first to become aware of them and of their significance, to elicit the wish, the will and some persistence. Odd moments can be used for practice while in the flood tide of daily occupation.

HABITS; GOOD OR BAD AS THEY INFLUENCE CONVALESCENCE:

Good or bad habits are powerful helpers or hinderers of economies in effort; in doing things in better or worse ways. They are the conscious, the half-conscious or the non-conscious or the automatic which do themselves.

They are long accustomed ways of feeling, thinking and doing; of applying energies along lines in the main natural, but have become deviated more or less; artificial or modified in some particulars from original design or purpose.

Such as "the calls of nature": to eat, to eliminate, to sleep, work, fight or flee. These urges may have been originally reasonless except as organic needs. They become modified for reasons good or bad; or prejudices, or whim, chiefly in order to conform to social custom, folkways; the tyrannies of civilization.

The moment you begin to reflect upon why you feel, think or do this or that; or why in this or that way, you come to learn the differences between things as they are, or have become, or those that should become. Then you should ask why and plan how to do them differently. Thus you have assumed conscious control and departed from instinctive urges or non-conscious intelligence. We should change our habits as we change our clothes. Our body-minded entity needs shaking out; ventilation; improved disposition and rearrangements. Otherwise we lose much in progressive living.

HINDRANCES TO ORGANIC INTERPLAYS.

Importance of Removing Rigidities From Framework of Chest, Trunk, Back, Hip Bones and Joints Essential For Harmonious Functioning of the Soft Compressible Interior Organs. Included is the Favorable Stowing Away of the Spherical and Tubular Contents; Also of Maintaining Tone in the Supporting Structures.

The framework should fit the soft parts; and the soft parts should fit the hard parts, otherwise disharmonies persist.

Free reciprocities in movement of body framework are essential of full health. The *inside* contrivances—the viscera or "noble organs"—are often hindered by faults in the structures of the *outside* parts; of the "torso" or trunk; and also by misplacements of the organs among themselves. Right *packing* of goods inside is often of extreme importance in their effectiveness.

Any marked hindrance to visceral interplays reduces organic performance to danger point. While some deformations may be gradually compensated it is only at some cost and risk. The coefficient of stamina is then lowered by so much.

Oftentimes pronounced benefits ensue—when not expected—upon restoring normal flexibility of the framework and the supporting structures. Thereupon the organs themselves are able to do their appointed work so much more thoroughly that the whole body—mind—system becomes raised to a higher plane of vigor and effectiveness than theretofore.

Mechanical relief is needed and achieved by restoring moveability and tone. The methods here presented and urged are through movements made upon fixed, rigid and inelastic parts, thus supplying space and range to move in and to perform within their normal limits.

It is well to begin by limbering up the ribs, the shoulder girdle structures; the abdominal supports—the rear as well as the front—and, above all, give the backbone all the freedom of which it is capable by activities of the waist line structures. Much of this can be secured by voluntary movements, but not all.

Thus marked derangements are overcome; notably disorders caused by drags and compressions on the heart, and great vessel trunks, the genito-urinary organs; disordered menstruation in women and prostatic trouble in men. Also the secondary digestive functions, bowel emptying, urination, etc. All these in addition to better respiration, circulation, digestion and elimination of harmful residues and poisons; the self formed ones in particular.

CONVALESCENCE FROM HINDRANCES DUE TO STAGNATION OF BLOOD AND LYMPH:

Sluggishness moulds the body in the wrong way, just as surely as right movements do in the right way. Great relief follows on becoming freed from rigidities, stiffnesses, adhesions in the framework joints, as well as in the muscle masses.

A majority of states of so-called "nervousness" are due to chronic fatigue caused by persistence of muscle cramp, of over-tension (tonic protective spasm) similar to so-called "muscular rheumatism." This protracted muscle action is a form of prodigal over-exertion (though unconscious) and produces chronic fatigue, leakage of power, hence an over irritability of "nerves" (really of temperament) the attention being diverted to subconscious or non-conscious distress.

CONVALESCENCE FROM CRIPPLEMENTS, LAMENESS AND PARTIAL PARALYSES:

Included are many forms of chronic and so-called incurable disablements. The part one can contribute to one's own recovery by self help; cooperation, learning to play the old game as an expert in new and more effective ways.

The adviser can help mightily by applying sympathetic finger touches upon the impaired muscles from where they start to where they end—from origin to insertion. Explaining their normal actions and demonstrate on the corresponding muscle on the other side. If both are affected it is more difficult; you can then exhibit on your own corresponding part. Then kindly but dominantly and repeatedly *start the wish*, then the *will* power and drive the efforts home. Of course when paralysis is present some form of electricity is essential to wake up the deadened parts, but this should be followed by the positive command to perform; encouragement and patient persistence.

In the majority of long half dead limbs there remains ample latent power to move if only freed from definite hindrances. Retraining is the one way to get these powers again at work. Here let me mention a familiar and obstinate group of disablements with similarities of causation and form, variously called "writer's cramp", scrivener's palsy and "occupational neuroses". These are often found to be half cured, and can be fully cured, by doing the needful thing in the right way. (See "What is a Miracle of Healing?")

PLAY AS A CONVALESCENT MEASURE:

Active play as a remedy is second in importance to none other; a simple, available, agreeable means of re-

covering stamina and serenity and worth-while living; also of long lost proficiencies in emotional poise; also for restoring social or group pleasures and beneficences. Active, competitive play brings one back in spirit to the starting points of youth. No one is too old to play actively in some forms.

Restorative play or recreative measures are the natural outlet for energies when for any reason they have been repressed (restrained from without) or suppressed (from self hinderings within).

OCCUPATIONS CHOSEN CHIEFLY FOR AMUSEMENT; FOR RESTORATION OF IMPAIRED STAMINA:

Also of active games which stir up jaded energies and restore to the mind-body-spirit graces of feeling, of thinking of movement, posture, attitude, and of gait. They help to make for comeliness, for praiseworthy vanity, enjoyment and for safety in traversing crowded thoroughfares; also for endurance. Great is the mere pleasure of bodily self command in active movement.

Poise is the favorable starting point of all effective effort; for restrained and for free movement, for accuracy of aim, for best performance, as well as for repair.

PLAY: THE ACTIVE FORMS THE GREAT RESTORER

Competition in active games is the best means for training oneself in initiative, in wholesome aggressiveness; in velocity and rate of prompt reaction times. There is the sedate croquet, clock golf, quaint tennis. More exertion is in tether ball, hand wrestling (right hand to right hand, toe to toe, to push or pull one "off the stance"); also fencing, bowling "medicine ball" (a big one like a foot ball tossed back and forth, by two or half a dozen).

Among the beneficent occupations are such as artistic weaving; window gardening; outdoor flower culture; manual training; carpentry; metal working; tool using; also training dogs, cats; breeding fowls, birds and the like. "Occupational or Play Therapy."

There are effective games one can play with oneself, as while lying down to stretch in all directions; pulling in and thrusting out, also bending, turning and twisting with increasing tension, then let go; also raising oneself on head and buttocks and heels. These effort and relaxing exercises *overcome morbid tension*, which is one potent cause of most nervous conditions; they produce a fuller restfulness. Thus they become the equivalent of more sleep; also supply the prime requisite for full deep slumber. They likewise cause natural hunger, hence are favorable to nutrition.

Hobbies. Then there are diverse and sundry interesting hobbies: collecting things, postage stamps and the like. There are excellent and agreeable forms of distraction and rousings of energy for recovery.

SLEEP AS A DOMINANT FACTOR IN CONVALESCENCE:

Hindrances to sleep, chiefly mechanical. Some are mentioned and how to remove them and secure *the essential conditions for refreshing slumber which is complete muscular relaxation*; let go.

While anxiety states are probably the chief causes of insomnia or shallow troubled sleep, the most effective way to rid oneself from scare states is through some of the many effective ways to cultivate body poise, comfortable attitudes. By a quiet walk outdoors just before retiring, the blood is sent to the surface, to the big muscles which—as said—thereafter more promptly relax.

Slumber may be regarded as of two parts: one of the body and another of the mind. They must be equalized. The conditions for sleep must be favorable in both domains otherwise wakefulness persists in whole or in part, but not complete enough.

CONVALESCENCE FROM IMPAIRMENTS OR DISORDERS OF THE ORGANS OF SPECIAL SENSE:

They arise from three main sources: impaired stamina; inherent defects in the organ, and diseased states suffered by the organ and associated structures. Also inadequate reciprocation all through.

Well worth while results can be secured by the patient giving intelligent and faithful cooperation; in supplementing the efforts of the specialist. This can be done in several ways, chiefly by removing the hindering effects of disuse or wrong use of the parts, the direct and the associated, such as limbering up the structures of the neck, the muscles of the organs—the eye, the ear, etc.—also through massage or vibration of the scalp base of the neck and upper shoulders.

Mere correction by glasses for the eyes is often not enough, nor of local attention to the throat, nose or ear. Almost every one now is made to realize the far reaching and disabling effects of neglected eye strain as cause as well as effect of disorders of the feelings and the depletion of stamina.

In disorders of the ear these extra or accessory measures aid much more than is realized or appreciated. There is the great value of stretching of the jaws; moving them about to their full range; the "yawning cure" of Fernet. The majority of deafnesses are due to loss of pliancy in the direct and associated structures.

Then there are the disordered sensations of heat and cold; too much or too little. Benefit is thus possible to the whole organism through training the sense of touch, as shown in loss of tone in the skin by dry surface friction or salt sponging. Also by rebalancing the body-mind, and powers of resistance and readaptation. The great point is to distinguish between real and unreal "sensations", between "false sense of happiness" and the satisfactions some take from martyrdom "acquiring merit" through suffering.

HINTS ON "HARDENING THE CONSTITUTION":

Especially for raising one's powers of resistance to such conditions as colds or infective catarrhal fevers: Also there are chemical disorders, shown in the muscles—due to defects in the heat generating and eliminating organs; poor skin tone.

Can we, and how can we, "Harden our Constitution?" We can; by ordering our lives in accord with our obligations as human animals. We should rouse our latent defense powers and train them for becoming effective to meet extraordinary situations through living in accord with Nature's laws.

Especially potent are these reinforcements of stamina done by fortifying temperature readjustments, and recovering from, those pestiferous and perpetually recurring minor diseases, miscalled "colds"—they really are heat diseases. The name is "infectious catarrhal fevers." The causes of these have baffled us up to today. The full powers of modern research are now becoming elicited and large amounts of money devoted to this research. There are already found nearly one-hundred varieties of microbes incriminated.

Meanwhile much can be achieved by so-called "hardening" or training measures to forefend against minor or major infections and to pursue a long and successful campaign against time and deteriorative forces.

Rules of conduct, conservative personal hygiene, should serve and do serve many valuable purposes. They can be modified to suit widely different exigencies; will help any one who desires earnestly to "keep in advance of the game" inured to temperature fluctuations. God does not temper the wind to the shorn lamb; but the skin of the lamb to the wind.

CONVALESCENCE FROM TUBERCULOSIS:

Tuberculosis is cited as a type of malady having many features in common with other chronic infections, yet of vastly greater tenacity, obstinacy and destructiveness. Convalescence here—while often extremely slow—can be brought to a happy issue when cooperation is faithful, cheerful and persistent. The task is how to win out in a long and tedious fight against a chronic infection producing constitutional deteriorations which may last six or eight years. We are steadily and increasingly reducing the destructiveness of tuberculosis. The whole enterprise is one of regaining positions of advantage and holding them till one makes the other steps in advance. Reciprocations of the utmost nicety won and held till further advances are won and held.

CONVALESCENCE FROM WEAK FOOT ARCHES:

Often a far more serious matter than realized. Cited as a type of widely prevalent, often unrecognized cause for nervous complaints, energy leaks, exhaustion states, distresses, hindrances to fitness and of chronic disablement.

Self cure greatly expedited by training the dormant power of grasping with the toes; one we inherited from our tree dwelling progenitors and neglected. It may prove an invaluable resource when redeveloped. This is one of several disadvantages of being human or erect.

CONVALESCENCE FROM GOUTINESS:

A hard job and a tedious one. This complex condition yields in proportion as treatment is initiated early or late. Joint and muscle miseries, arthritis, "chronic rheumatism" and other forms of crippling, of disordered, depraved or diseased nutrition, of metabolism (body chemistry).

In some of these the chief, or original cause was an infection; in most the foundation lies chiefly in defects of the glands (endocrines) which regulate metabolism.

Disabilities of joints grow worse from disuse of the muscles or motor mechanisms. Careful diet helps here most of all. All these conditions should be studied from recent findings of blood chemistry—acid-alkali balance; mineral ingredients in particular.

CONVALESCENCE AFTER A MAJOR OPERATION:

Always a cooperative enterprise. Ample time and rest being the chief elements. By doubling the usual time spent in hospital, evil after-effects are reduced by half or more. Here is a most important field for conservation demanding far longer care than is yet bestowed. The patient should be frankly warned of all this and not allowed to expect full restoration from less.

CONVALESCENCE FROM DISORDERS OF THE HEART AND CIRCULATION THROUGH BLOOD PRESSURE SELF BALANCING:

Brief reference made to several promising auxiliary measures; such as rest and diet regulation; breathing movements; warmth and cold to spinal centers. Warmth to back areas lowers, and cold raises, blood pressure. A valuable additional measure is deep rubbing along the backbone. This helps to regulate ebb and flow of blood—vaso motor responsiveness.

Also the curative potency of performing customary and needful movements with deliberation and careful balance; controlled acceleration. You can thereby come to improve your heart and general stamina. Many can be performed while lying down. Moreover they are really necessary, otherwise as much, often more, damage is likely to follow than from over exertion. In brief the rule which should govern in all voluntary movements is deliberation and precision; the watchword is to: "make haste slowly."

POTENCY OF BOWEL (COLON) IRRIGATION IN EMERGENCIES AND OCCASIONALLY TO BECOME ASSURED OF INTESTINAL CLEANLINESS:

Whatever else is done—or oftener not done—experience shows that an occasional thorough clearing out of the large gut produces many valuable and often unexpected benefits in most adults, especially where convalescence is retarded; when the creature is below par or persistently miserable.

This is so whether constipation is marked or not. Often times there has not been a thorough movement from far up the line for months or years. Parts of the intestines often get out of tone and others in over-tone, or spasm. By emptying the large gut normal tone is encouraged; certainly a sense of well being is produced. Intestinal poisons are thus swept away. Then any other remedies usually work better. Purgatives are altogether obnoxious. This should be done by a real expert in "colon irrigation", using large quantities of water at a temperature in accord with the individual need. When this is followed by manipulation of the abdominal and accessory structures more permanent results are obtained.

HERNIA OR RUPTURE:

This condition is one of protrusion of a loop of inter-line through an opening of the belly or the flank wall. Unless this is released and replaced gangrene may occur and even death.

A suitable truss must be used to protect the parts and prevent perils from progressing; especially from shock or injury or sudden or extreme exertion.

Much can be done for the abdominal or pelvic forms through strengthening; retraining the supporting muscles; the direct and the associated. An essential part of the training is the formation of protective habits in the use of the muscles. These habits should be learned from the physician and become automatic. They consist, in the main, of keeping the abdominal muscles drawn firmly inward and upward and in avoiding any push outward or downward. (See: Particular exercises done while lying down; pushing across the body to strengthen the transverse abdominal muscles described under "Chest, Trunk and Pelvis").

CONVALESCENCE FROM AGE HANDICAPS:

Growing old naturally is *senescence* and unnaturally or prematurely from disease is *senility*.

We here consider briefly the phenomena of normal old age changes—senescence—as they arise in the ordinary sound human; just enough to form suggestions how one who is on the inevitable down hill course can most promisingly check the velocity and all-round progress of decrepitude.

To merely live, exist, survive is an exploit, but a small one. It is a vastly larger one to retain the best of one's capabilities till late age. Just reflect what a lot of fun, happiness and usefulness you could thus enjoy by "Eluding the Ravages of Time."

The chief aim in late age is to retain or regain poise, tranquillity, self mastery; in particular flexibility adaptability, and to spend much time out of doors, pottering about, enough action to maintain temperature balance; skin resistance; and above all to be moderate in foods and fluids.

WHAT IS A "MIRACLE OF HEALING?"

Faith and religious cures are interesting; indeed instructive when analyzed and explained. They will be usually revealed as bed or chair-ridden invalids who—through long periods of rest and idleness and coddling—have become structurally quite sound but temperamentally

a mass of entanglements in their impulses and restraints; full of whimsies, and apathies and selfishness. Then when subjected to pressure of urgings by zealots, and when adjured and commanded to get up and go, they do evolve a burst of impulse and power; surprise themselves and their families by resuming many activities long denied and disbelieved.

PROSTATISM RELIEVABLE BY REMEDIAL MOVEMENTS:

Prostatism, the characteristic misery and disablement of masculine middle and late age, is, in my opinion, a condition susceptible of prevention, and, in my experience, of control when acquired provided it be not too far advanced or complicated. It is deserving of more attention than it gets and curative measures should be used before the evil days come when malignant disease supervenes. Then only a serious operation can give relief.

What do all these warnings signify, and what is demanded? Plainly that the circulation in the prostatic structures or adjacent thereto, being long passively congested, stagnated, the parts then need to be suitably and adequately moved, exercised, and alternately stretched in consonance with design, in order to maintain the ebb and flow of nutrient fluids and to secure release from compressions.

This stretching can be effected passively by manipulations by a skilled masseur; or better by the physician himself; or best by the patient, who can himself perform simple movements, his feet alternately resting on an object (desk or table) about as high as his pelvis. A method I devised is the epitome of simplicity and convenience which may be called the "Desk Exercise"; readily done anywhere, any time.

THE MENSTRUAL FUNCTION

This life cycle is readily disturbed by unsuitable forms of living. Fundamental changes should be made in the habits of mind in women and also in physicians; they both are apt to interpret woman's life in terms of menstruation. If every young girl was taught that menstruation is by no means a "bad time" and that pain then is a mere unnecessary evidence of a curable incapacity, we might expect a revolution in the life of women.

An over congestion often occurs causing pain at the beginning of the menstrual period. This pain disappears as soon as the flow is well established. Also congestive headaches are thus relievable by equalizing the local circulation. Pain and discomfort—where no organic lesion exists—are readily controllable by regulation of the pelvic distribution; by restoring tone and full action in the abdominal muscles and diaphragm.

The function of menstruation should—when at fault—be trained on the same main plan as other periodic functions, such as respiration, circulation, digestion and elimination. An admirable method of correcting these disorders has been devised by Dr. Clelia M. Mosher (then adviser to women students of Leland Stanford University) and also by myself, and used successfully for many years.

No woman should be satisfied with less than perfect menstrual health.

RECOVERY OF PERSONAL COMELINESS AS A WORTHY CONVALESCENT ENTERPRISE

Handsomeness as a commendable ambition is indeed much more than an aesthetic asset or form of expression. Vanity is a wholesome impulse when displayed in particular directions.

Since most of us are striving to possess beauty of spirit, our attention here is given to maintaining or regaining such good looks as one can preserve or recover by art of cultivation of those attributes which make for material beauty.

Original poise or balance includes the processes of nutrition, of respiration, of circulation and of those having to do with the genito-urinary system. Also the various factors concerned in livingness on a full plane of vigor.

The Control of Leprosy

Leprosy, that ancient and dread disease, bids fair at last to be added to the list of affections over which man can claim some sort of effective control. Known almost from time immemorial, it became prevalent in England and other parts of Europe as an aftermath of the Crusades, which naturally led to an increased amount of intercourse between West and East. In consequence, lazaretos, literally in hundreds, sprang up all over. The situation was probably not so bad as it seemed, for there is little doubt that syphilis, tuberculosis, psoriasis, and other affections of the skin, were included under the general term "leprosy," a condition of things that is not surprising under the circumstances. Still, it was bad enough, and the Biblical account of the disease, together with the elaborate and somewhat theatrical precautions adopted in mediaeval times to control its spread, combined to make the very name of leprosy a fearsome thing. Yet, as we now know, the danger of infection in the case of leprosy is actually not great. As a matter of fact it is a far less dangerous disease than tuberculosis. In northern Europe and the temperate zone of America leprosy has declined in prevalence almost to the vanishing point, not from any increased efficacy in therapeutics, but, practically, altogether as a result of segregation. In parts of Australia the disease is about stationary, though in Queensland it seems to be gaining ground. In Africa, Asia, the East and West Indies, on the other hand, leprosy has proved to be well-nigh unmanageable. The reason for this is that the dread of isolation, which in the past has meant, practically, imprisonment for life, has prevented the sufferers from reporting themselves during the incipient stage of the disease, when there would have been a better chance of cure. According to Sir Leonard Rogers, F.R.S., the Honorary Medical Secretary of The British Empire Leprosy Relief Association, the new plan of campaign, as it is applied, at least, in tropical Africa, is to permit early, and for the most part they are non-infective, cases to attend dispensaries and hospitals for treatment. This does away with the incentive to concealment. There appears to be little risk in so doing, for it seems that rather close contact with a leper, such as sleeping in the same bed or living in the same house for a long time, is requisite to bring about the transmission of the disease. About eighty per cent of the infections are acquired in this way.

In the matter of treatment, the agent of choice, which has been used for a long time past, is chaulmoogra oil. This is an oil obtained from the seeds of a plant growing in South Asia—the *gymocordia odorata*. It has the disadvantage of being highly nauseating, and, while it is somewhat more effective when given by injection this method is quite painful. At best it hardly does more than retard the course of the disease.

A great advance has come about through the employment of derivatives of a closely allied substance, known as hydnocarpus oil. Sir Leonard Rogers, on the basis of experiments carried out in Calcutta, has discovered that the injection of soluble sodium salts or soaps of the fatty acids of hydnocarpus oil is highly effective. It is stated that nearly all early cases, and many of the advanced ones, are curable in this way. One of the best of several similar preparations is sodium hydnocarpate.

This new therapeutic agent has, in addition, the great merit of cheapness. The most active preparation now made from the oil can be produced in powder form at a cost of two shillings for a full year's treatment. This is of much importance in view of the enormous number of cases to be handled. The drugs in question are now being sent out in quantity from England, and the seed of two varieties of hydnocarpus is now being distributed. Already thousands of the plants have been raised in Africa, the West Indies and Fiji—A. G. N., *The Canad. M. A. J.*, Apr., 1929.

Practical Window for Transmitting Ultraviolet Rays

A. H. Pfund describes a practical window for transmitting ultraviolet rays which will be good for at least a year and which can be replaced at a cost of twenty-five cents. The transparent material chosen for the window is cellophane. At the present time cellophane windows are not on the market. It is believed, however, that they will fill a real want, and it is therefore suggested that charitable organizations, such as the visiting nurse associations and municipal departments of health, procure a supply of cellophane, get in touch with a carpenter who will make the frames, and, finally, bring the matter to attention of those who are in need of it.—*J. Am. M. Ass.*, 1928.

The Clinical Significance of Intraocular Changes in Nephritis

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OPHTHALMOLOGIST TO THE JEWISH AND NORTHERN LIBERTIES HOSPITALS, PHILADELPHIA

Philadelphia, Pa.

Every Ophthalmologist as well as internist is familiar with the fact that sooner or later patients with nephritis will show some intra-ocular changes. The changes in the eye-ground are accounted for by the alteration in the blood stream itself and by an associated arteriosclerosis, so commonly observed in cardio-renal-vascular disease.

Briefly stated, the ophthalmoscopic changes in the eye-ground are:

- (1) Retinitis, exudative and atrophic.
- (2) Hemorrhages into the retina and preretinal hemorrhages.
- (3) Optic neuritis, including choked disc.
- (4) Detachment of the retina.

The most common intraocular complication is to be found in the retina in the form of retinitis. This is usually bilateral and occurs rarely in children except in post-scarlatinal nephritis. About 40 per cent of nephritics will show retinal changes. These changes may appear as a retinal hyperemia or in the form of exudation, diffused or circumscribed, or in the form of atrophic spots.

In studying these eye-ground changes one must try to interpret them from the point of view of prognosis. It is not enough merely to know that they are there, but one must try to explain their significance in relation to the disease in question.

We feel that a negative eye-ground finding presents a more favorable prognosis; it certainly means a milder toxemia and less damage to the kidney and a lesser involvement of the cardio-renal-vascular system.

The retinal changes are of different type, depending upon the duration of the underlying nephritis. In the more recent and acute cases of nephritis, we usually see the diffuse exudative type of retinal change, while in the chronic cases, especially of the interstitial variety, we find the atrophic type of retinitis. Occasionally we find both these retinal changes present; this is usually the case when we have an acute exacerbation of a chronic nephritis. The diffuse type of retinitis may entirely clear up, the retina returning to its normal state when the patient recovers from his acute nephritis. This is not true of the atrophic type of retinitis. The retina in these cases never returns to normal condition. The progress of the disease may be arrested but the damage done to the retina is irreparable. I have never seen an atrophic retinitis complicating an interstitial nephritis cured.

As for the interpretation of retinal white spots, we must remember that a few isolated white spots in elderly patients who at the same time have some renal condition may be of no import. Such isolated macular white spots are often found in middle-aged patients without any cardio-renal-vascular-disease. Unless some other changes are associated with these isolated spots in the macula no prognostic significance should be attached to their presence. On the other hand, when definite atrophic spots of various sizes are present, the retinitis is marked enough to indicate a definite causal relation between the retinal change and the kidney condition. It is really a sign of serious involvement of the kidney function. Formerly these cases of retinitis were looked upon as of grave prognostic outlook and the patients were expected

to die within a period of two years. To-day we know that these patients may continue, with proper care, in comparatively good health for about 10 years.

When, however, in addition to these atrophic changes, we have super-added a diffuse exudation of the retina, we are dealing with an acute exacerbation or reinfection of a previous chronic nephritis, which, of course, makes the prognosis more serious. The exudation may disappear, leaving only an increase in the number of the white spots in the retina, while the cardio-renal-vascular system is left more damaged than before.

Optic nerve changes as a symptomatic expression of cardio-renal-vascular disease vary from a simple hyperemia to an optic neuritis, and even to a choked disc. The choked disc in nephritis does not materially differ from any other choked disc and its etiologic element can only be established by clinical and laboratory studies. But this much may be said, that whenever it is present it always means that we are dealing with a more advanced kidney condition. The visual disturbance in these cases is more marked. But the vision may be restored partially or even totally. The optic nerve inflammation may subside, leaving very little atrophy. Optic neuritis of kidney origin never leads to total blindness or total atrophy. If any marked reduction in the visual function is present it is usually due to the associated change in the retina. Even the choked disc does not lead to total blindness, differing in this respect from choked disc caused by tumors of the brain, which usually lead to total atrophy and absolute blindness.

This much, however, must be said of optic nerve inflammation complicating nephritis, that it is always of serious prognostic omen, especially when associated with the atrophic type of retinitis.

Retinal hemorrhages are always of great significance, especially those of the recurrent type; they always indicate a serious degenerative process in the cardio-renal-vascular system. The local damage these hemorrhages do depend more upon the location than upon the size of the bleeding spot. When the hemorrhage is into the macular region the visual disturbance will be very marked; on the other hand there may be a considerable area involved outside of the macula with very little visual disturbance. It should always be remembered that these retinal hemorrhages indicate to us what is actually going on in other parts of the body, especially in the brain. As a matter of fact 50 per cent of these cases finally terminate in cerebral apoplexy. The hemorrhages are probably caused by the associated high blood pressure and sclerosis of the capillary vessels.

While it is true that these hemorrhages often disappear, and the visual function remains good, still we must look upon them as an evidence of serious general conditions requiring very careful attention.

The associated symptoms of optic neuritis and exudative and atrophic retinitis, with hemorrhages into the retina, constitute a very grave clinical picture from the prognostic point of view. These patients usually die within a period of 4 months.

The point I wish to stress is that the ophthalmologist

must read the eye-ground findings from both the diagnostic as well as prognostic point of view.

Occasionally it still happens that the ophthalmologist is the first to detect kidney condition when the patient is utterly ignorant of its existence.

I may also add that I never make a diagnosis of an albuminuric retinitis. I think that term qualifying the retinal condition should be omitted. First, the term is a misnomer, as it indicates that the retinal change is caused by the albuminuria. As a matter of fact, the most marked cases of retinitis are found in the contracted kidney when little albumin in the urine is present. Secondly, it is impossible to differentiate the nephritic retinitis from any other form, except in a few classical cases.

Detachment of the retina is occasionally seen in nephritis. Here, too, we must think not only of the local effect upon the visual function, but also upon the fact that these detachments occur in the more serious cases of nephritis and forbode an early death except in cases of pregnancy where the patient recovers after a premature delivery is instituted.

Lenticular opacities while frequently seen in kidney disease are of no prognostic value.

I have statistical data at my disposal to substantiate my conclusions, but I have purposely omitted them. I do not believe they add any force to my statements, which are based upon personal observation covering a period of 25 years.

In conclusion I wish to say that the ocular findings in the various forms of nephritis become of utmost importance only when the ophthalmologist tries to read and interpret the eye-ground picture in the light of diagnosis as well as prognosis. An eye-ground picture is like an x-ray plate: you must read it and interpret it if it is to be of any use to the clinician.

2027 Spruce Street.

Tuberculosis Theses

1. An appearance of ruddy health does not exclude tuberculosis.
2. Prolonged and intimate exposure at any time of life, but especially in childhood, is vastly more important in diagnosis than "unassociated" or "noncontact" heredity.
3. Constitutional or general symptoms lead toward the diagnosis of tuberculosis, while the localizing symptoms point out the organs involved.
4. The history or presence of certain complications, as fistula in ano, pleurisy, adenitis, a discharging ear coming on painlessly, are all strongly suggestive of tuberculosis.
5. Pleurisy with effusion, not attributable to other causes, should be treated for a time as due to tuberculosis.
6. A diagnosis, tentative at least, must be made whenever an individual spits a dram or more of blood that cannot be proved to be due to other causes (e.g., mitral stenosis).
7. Symptoms indicate that a patient is sick, while physical signs point out only the mischief that has been done.
8. Symptoms without physical signs demand treatment, while physical signs without symptoms require often only careful watching.
9. Absence of tubercle bacilli in the sputum means only that bronchial ulceration has not occurred.
10. Auscultation is more important than inspection, and the detection of râles by the auscultation of the inspiration following cough is the most important procedure in the detection of physical signs of early pulmonary tuberculosis.
11. Localized râles at the apex are second in importance only to tubercle bacilli in the sputum.
12. The disease is practically always more extensive than the physical signs indicate.
13. Abnormal physical signs in one apex should be considered as due to pulmonary tuberculosis until proved not to be, while those at the base should be looked on as non-tuberculous until definitely proved so.
14. The fluoroscope, the roentgenogram, and particularly stereograms, may reveal and locate pathological pulmonary changes to be detected by no other means.
15. Extensive "peribronchial" changes in stero-grams may

occur with slight or no physical signs, while parenchymatous changes are usually accompanied by abnormal pulmonary sounds.

Prognostic Theses.—1. Puberty and the menopause have less bearing upon the disease than pregnancy; especially repeated, frequent pregnancies, and hence marriage for women increases the uncertainties.

2. The mentality and characteristics of the patient's family, their ability and willingness to help in his recovery by self-sacrifice over long periods of time, are more important.

3. He who returns to his former occupation when congenial and not complicated by sudden great effort and so makes his living with least exertion and worry, avoids relapse most often.

4. Recovery in a climate in which a patient is to live, especially if accomplished at home, bespeaks greater longevity than immediate change of climate on arrest of disease. Climate may be only a minor factor in this effect.

5. An acute onset with extensive physical signs or with severe and protracted symptoms points to a prolonged illness or an early fatal termination.

6. The continuous gain of weight on an ordinary diet is the best indication of favorable progress, but can occur with advancing disease.

7. Digestion is the keystone of the prognostic arch.

8. Fever is the best sign of progressive disease, and its chances of disappearance are inversely proportional to the length of time it has persisted.

9. Persistent high temperature under appropriate treatment, with slight physical signs, is grave.

10. The pulse rate, together with the temperature and weight, forms the prognostic triad.

11. Uncontrollable excessive cough is the worst form of overexertion and favors a quick deterioration of the bodily resistance.

12. Physical signs tell by inference what has happened in the lungs, symptoms what is happening. The general condition is more important than the physical signs or the history.

13. Extent of disease marks the time element; intensity the acuteness.

14. Improvement, and even arrest, may occur without change in physical signs.

15. Tubercle bacilli in the sputum indicate bronchial ulceration, and the larger the number possibly the greater or more acute the ulceration, but enormous masses may occur in favorable cases.

16. Duration of treatment of less than three months is of little permanent help, while three or four years of treatment may complete an arrest.

Therapeutic Theses.—1. The treatment of pulmonary tuberculosis demands little knowledge of drugs but much about the immediate and prolonged education of the patient.

2. The marked tendency to temporary arrest or quiescence, even in advanced stages, rests upon the brow of the tuberculous evildoer like the curse of Cain.

3. The danger time in tuberculosis, the periods of the "false convalescence" of Laennec, cannot be over-emphasized.

4. The time allotted to treatment is usually too short, for recovery is ever longer than onset. The value (possibly the results) of treatment increases as the square of the time; that is, two years are four times as valuable as one.

5. At home and abroad, in the desert or on the ocean, in the lowlands or upon the mountains, patients may recover anywhere and everywhere, for it matters less where than how they live.

6. The sanatorium, the best place in which to treat patients in large numbers, has shown that permanent arrest may follow effectual treatment; the hospital has afforded evidence that direct contagion may in part be controlled, while the dispensary has become the advanced attacking line, so to speak, that carries the warfare into the enemy's camp.

7. The length of stay in these institutions depends upon the object to be attained: for permanent recovery, two or three years; for quiescence, at least three months; for prevention of infection from far-advanced cases, as much as possible of the time between admission and death.

8. Remember that too much food may, in the end, prove as disastrous as too little food.

9. Exercise should be regarded as a powerful and dangerous medicine.

10. Since the vast majority of patients must seek treatment only in the climate in which they contract the disease, the so-called climatic treatment is of importance to hardly more than 5 per cent of all patients.—*Tuberculosis Theses, Laurason Brown, M.D.*

Medical Times

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How to Put Medical Sanity into the Volstead Act

There is no reason why, if the Volstead Act, in its essentials, is to be the law of the land for some time to come, it should not be rationalized in its medical provisions to exactly the same extent as the Narcotic Law.

This would appear to be a propitious time to offer a constructive suggestion looking to a sane Volsteadism in so far as the treatment of the sick and the rights of the medical profession are concerned.

Both narcotic and intoxicating beverage matters are under the jurisdiction of the Treasury Department and are directly administered by the Bureau of Prohibition. The bureau operates under a narcotic law whose medical requirements are in accord with the best medical views and desires, while those of the Volstead Act are a needless offense to the profession.

It must be borne in mind that, in point of fact, alcohol in the form of intoxicating beverages is a narcotic no less than opium, but far less potent as a poison.

In the case of the more potent narcotic the physician is granted privileges and rights which are in accord with his dignity and attainments. Under the Harrison Narcotic Law he is permitted, "in the treatment of incurable disease, such as cancer, advanced tuberculosis, and other diseases well recognized as coming within this class," to prescribe for such patients, "in the course of his professional practice and strictly for legitimate medical purposes," provided that, in so prescribing, he "indorses upon the prescription that the drug is dispensed in the

treatment of an incurable disease; or if he prefers he may indorse upon the prescription 'Exception (1), article 85.'" Now comes the crux of the matter: "The bureau is not charged with the duty of laying down any fixed rule as to the furnishing of drugs or the frequency of the prescriptions in any particular case. This responsibility rests upon the physician in charge of the case." So long as no addict is supplied with narcotics merely to keep him comfortable by maintaining his customary use, the physician is permitted to function in good faith.

Why, then, should fixed rules and the 10-day limitation be insisted upon in the case of alcohol, a relatively weak narcotic, while the physician is subjected to no humiliation whatever in the case of the highly potent types of narcotics?

In place of the indorsement to the effect that opium or one of its derivatives is being dispensed or redispensed at frequent intervals, perhaps in large doses, for an "incurable disease," there should be an indorsement required which should certify that an intoxicating beverage is being prescribed "in necessary quantity and frequency and in conformity with legitimate medical indications," or words to similar effect; or the disease or condition might be named (diabetes, influenza, pneumonia, septicemia, diphtheria, senility, etc.); or the number and title of the new regulation might be used as an indorsement.

The organized medical profession has, of late, shown its just resentment in this insane administrative situation and may reasonably be expected to make its discontent more and more manifest. At the same time there seems to be a growing disposition on the part of governmental folk to consider reasonable modifications of the Volstead Act.

Since patients in general get the narcotizing alcohol needed by them in sufficient quantity, through both professional and illicit channels, what we propose is, after all, simply in the interest of a civilized procedure, unhumiliating to the physician and conducive to safe therapy.

The MEDICAL TIMES, in a spirit of good will, suggests medical rationalization of the Volstead Act to conform with the narcotic regulations. We believe that the foregoing suggestion and its premises will appeal as reasonable to individuals, organizations, and the Government itself.

Speed Mania

The younger generation, who do not know anything about war except as a bad dream, have only to see "Journey's End" and to read "All Quiet on the Western Front" in order to understand its folly—madness if you will—and brutality. Yet the keen interest that we feel in hairbreadth escapes on sea and land, and especially in the air, our daily experience in dodging automobiles—all support the theory that these compensatory thrills may serve as an outlet for the fighting instinct and for surplus energy and virility.

The "thrill," so eagerly sought by our young people in time of peace is always present, and the reckless spirit of the front is with us still.

War may be hell, but peace is on the edge of it. An interesting study for the medical psychologist who seeks for the causes of the high nervous tension of his patients and probes deeply into their complexes.

We take our pleasures, as well as our work, strenuously and spend our vacations—not far from the maddening crowd, but in it.

We are all children, looking for a "thrill", and "heart disease" is quite as deadly as machine gun bullets.—H. C. C.

Bitter Medicine for a Medical Minority

The situation in this country at the present time with respect to Eighteenth Amendment and Volstead prohibition ought to be highly educational to medical men opposed to it but in favor of other prohibitions, for example, those against education in birth control, against free speech, and against militarism.

Principles do not appear to interest most men, including some physicians, very much. It is their prejudices, passions and private interests that sway them most. Yet in aiding to destroy the principle that recognizes the rights of minorities in all circumstances concerning civilized men they are really acting against their own ultimate interests, as demonstrated by the plight into which prohibition has plunged some of them.

If such men were interested in principles as such they would always insist upon the rights of minorities. But the contraceptionists, the radicals and the pacifists have no rights.

It is therefore something of a joke when those physicians who are in favor of liberal liquor laws find themselves members of an oppressed minority. Many of these men, both before and after the late war, were ferocious in their persecution of so-called radicals, pacifists and contraceptionists.

Despite the intensive education to which these outraged gentlemen are being subjected we doubt whether, as spiritual brothers of the Bourbons of old, they will ever learn anything.

Sex Education

Must young children learn about matters of sex from pamphlets such as that written by Mrs. Dennett, or else from the gutter?

The same thing may be said of crime as of matters of sex. Children are also clumsily learning about crime, in such a way as to make of many of them crude practitioners of crime. If they were to be fully instructed in matters pertaining to crime we should have a situation much the same as would result from thoroughgoing instruction in matters of sex; remember that the advanced type of pamphlet does not dodge the erotic.

In the one case there would be no certainty that erotic love would not gain more than the "normal" proportion of ardent recruits, and in the other case that crime would not gain more of the "normal" proportion of arch criminals.

We don't teach our children everything about crime.

It would be dangerous logic that would affirm that "safety first" in social life would be furthered if we should see to it that our children knew as much as possible about crime.

It appears to us that neither the gutter nor the pamphlets of Mrs. Dennett are suitable sources of information.

In the life of the very young, whatever may be said of the rights of the adult, the erotic has no more reason to be stimulated than the criminal.

Censorship

"Oh! that mine enemy had written a book," said a wise man of old, a lesson that we have quite forgotten in this age of *furor scribendi*. It is a relief to feel that the cold, hard-boiled summaries of our medical papers are not subject to the censorship suffered by law and theology. The censor is like Artemus Ward's kangaroo—"an amoozin' cuss." He is supposed to represent the prevailing views of the community in which he lives. Poor old Voltaire's "Candide" is banned in Boston, while Boccaccio, Rabelais, Cellini, Zola and other plain-speaking

authors escape. In fact one of Zola's dirty books flourishes under the aegis of no less a purist than the late Henry James, so it must be all right.

A recent extraordinarily frank book on marriage is deemed worthy of an extended review in the Sunday supplement of the *Herald-Tribune*, which is most amusing from a medical standpoint. Of course, it has had a wide sale as a quasi-scientific solution of confessions which concern the priest and the physician rather than the laity; but, in point of fact both would shrink from probing the consciences of their clients so deeply. Why is marriage a failure? Because the climax, or orgasm, attending the sexual act is not satisfactory (!) Further comment is unnecessary. "Give me some civet to sweeten my imagination."

We pride ourselves on having advanced beyond the stage of our simian ancestors. Evolution is still in progress, but sometimes it would seem as if the trend were downward.—H. C. C.

Birth Control

We are in favor of anything that will improve the economic and social status of mankind, lessen the likelihood of war, and make the problem of disease a smaller-scale and more manageable thing through reducing populations. It is possible that universalized birth control will enable us better to adjust to our unnatural social order for a time.

But it is a wretched expedient, and a confession that the forces of social evil are too much for us. Far better than birth control, as has been pointed out by many thinkers, would be "such a reordering of our economic life as to make it possible for people to have more children and rear them in keeping with their normal and proper need."

Now there is a veritable conspiracy against maternity. But there will yet be a revolt. *The feminist of the future will demand motherhood in plentitude*. And she who will win such "freedom" will be regarded, for a time, as the unmarried mother is regarded to-day. This neofeminism will have much to do with effecting the social and economic changes without which it will be unable to function and without which the world will continue to be, for the most part, in a sad mess.

What exploitation of woman in the past compares with the denial of motherhood?

Meanwhile the practice of birth control is being rapidly adopted by all social groups and protests against it will be ineffective, indeed, almost meaningless. When such protests are heated, they suggest a high degree of *naïveté*. In the words of Dr. Logan Clendening, "There is no method of contraception which is not known to every adult male not actually the victim of microcephalic idiocy at the moment of his puberty."

It is the easiest, not the best, adjustment for weak humanity in its present stage of evolution, and the one that will be adopted, standardized, and universalized. The day is not far distant when our most respectable organizations will be whooping for it.

If it will serve, for a time, the purposes named in our first paragraph, we must endorse it with the reservations noted in our second paragraph.

But we are pinning our ultimate hopes to the new feminist who is not yet born—the Messiah that is to be.

Cæsus, Holy Mendicant

Sometimes it seems to us that the appeals of so-called eleemosynary institutions for public support would be more effective if they came from directing boards representing all types of capable citizens. The spectacle of

some magnate, perhaps fifty times a millionaire, standing with hand outstretched for alms is, after all, an absurd one. The one appealed to is likely to feel that the magnate himself might as well make up deficits. Why should anyone finance this Cræsus and fawningly abet his purchase of social prestige? And only too often the aid that is sought is for victims crushed in the magnate's own industrial machine.

These institutions send out letters with lists of directors reading like the literature of the steel trust.

It would be in much better taste, more rational, and more effective, if these appeals came from able citizens not of the millionaire class. The millionaires could give, just the same, but the conditions would be more consistent.

But, of course, these gentlemen are not going to resign forthwith. They and their fathers created these institutions out of pure philanthropy, and have a great passion for aiding the poor in person.

Very well, but one reason why our institutions have such a hard time to meet their obligations nowadays is not so very obscure.

Perhaps some compromise might be reached. Let the magnate-directors keep more in the background when collecting time comes around, and permanently enlarge their boards by the addition of successful men and women whose activities are not directly related to the piling up of wealth, and who could play the mendicant with much better grace and results.

The only things that count are the proper care of the poor and the prevention or wiping out of deficits; the ambitions of a Cræsus are of no account whatever, and insofar as he is a handicap in these enlightened days he ought to give way to better men and women.

T. Swann Harding's Latest Yawp

According to Mr. T. Swann Harding, who has broken out again, this time in *Current History* for August, "the physicians we have are like children chasing and killing individual mosquitoes in a malarial district, when a spray applied to a few lakes would banish malaria. Most of the illness they treat to-day is preventable; yet they are incompetent, inadequate and unequal to that job."

Our sin, it seems, is disorganization.

Near the end of the article is to be discerned our old woodpile friend of color. The surest way for the medical profession to become all that it ought to be is not to resist any longer "the organization of medicine under more or less direct State control."

We understand that this T. Swann Harding wrote no fewer than one hundred and ten articles of the same stripe last year. That is suggestive enough, but the editor of *Current History* naively prefaces the article in the August issue with a blurb which sets forth the fact that it "has been endorsed by bodies investigating the subject"—which will surely raise a good laugh on all sides. Guess what organizations!

The answer to such twaddle, of course, is that given by a prominent lay publicist who is also for better organization, but who is not blind to the profession's problems, accomplishments and potentialities:

"The scientific and technical difficulties of medical and surgical work make the labors of Edison and Henry Ford seem like the pottering of little children. . . . Could all well established facts about life and health be utilized all over the world to-morrow morning, the entire political and social structure of the nations would be shaken; and it is far from unlikely that disaster might ensue. . . . Only the slowness of our advance can save us

from trouble, by giving us time to rearrange our affairs to meet each upsetting improvement of life. . . . In the more civilized parts of the United States by 1975, I hazard the prediction, not more than one-fifth the present number of ailments will occur, and these ailments will develop in fewer cases than now. . . . During the single year of 1927, according to the reports of fifty-two life insurance companies and the United States Health Service, 65,000 lives were, so to speak, 'saved' as a result of improvements in public hygiene and preventive medicine. This made 1927 the healthiest year in American history."

The doctor was not wholly to blame for the one-horse shay. Yet he gave a good account of himself even in that poor medium of transportation.

The doctor is not to blame for counties still boasting seventy-three churches and not a single hospital bed (Dr. W. S. Rankin, director of the hospital and orphan sections of the Duke Endowment at Charlotte, N. C.)

The doctor is not to blame for the T. Swann Harding's.

Miscellany

JENNER'S HOME AT BERKELEY*

HENRY R. VIETS, M.D.

Edward Jenner was born in one of the most interesting parts of England, Gloucestershire. A few miles southwest of the city of Gloucester one finds the little village of Berkeley, charmingly situated in the Vale of Berkeley. It is small, perhaps 800 or 900 inhabitants; it is old, being mentioned in the Domesday Book; it is beautiful, sunning itself on the western face of the Cotteswold Hill and overlooking the mouth of the Severn. The baronial castle of the Berkeley family, where Edward II was put to death in 1327, tops the hill. Below the castle the early English Church, with a separate bell tower, nestles in the hillside; the vicarage, nearby, interests us most, for here, or, more correctly, in a building on the same spot, also the vicarage in those days, Jenner was born, May 17, 1749.

Around the village lays the fertile farming land of Gloucestershire, rich in its production of apples and pears, but more important, a country given over largely to the production of milk. Here is made a famous cheese, "double Gloucester". No county in England, too, has a greater variety of geological formations; it is not strange that natural history, studied under such favorable circumstances, made a strong appeal to the youthful Jenner.

Jenner's father was vicar of Berkeley; the family was an old one in Gloucestershire and owned considerable landed property. A tragedy occurred when Jenner was six; his father died. His older brother, also a vicar of Berkeley, brought up the youth with devoted care. As a boy Jenner roamed the country side, went to nearby schools at Wotton-under-Edge and Cirencester, in the Cotteswolds, and late in his teens was apprenticed to Mr. Daniel Ludlow, a surgeon at Chipping Sodbury, near Bristol, a few miles south of his home. While working with Ludlow he saw his first case of cow-pox, with lesions on a milk-maid's hand and also heard the patient express her opinion that because she had cow-pox, she could not have small-pox. The belief was almost universal among the milkers; little did the boy of eighteen realize its significance. But the idea was planted on a fertile soil and growth took place slowly but surely.

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At the age of twenty Jenner was sent to London to work with the great John Hunter. John was 41 (1769); he had just taken over his brother's house on Jermyn Street and had begun his lectures to medical students. Jenner was one of his first pupils; he studied with him, living at his house, for two years. The friendship started by Hunter and Jenner at this time lasted throughout Hunter's life, as we can readily see by numerous letters, fortunately preserved for posterity. While Jenner was living with Hunter, he spent part of his time sorting and classifying the zoological specimens brought back by Sir Joseph Banks from Captain Cook's first voyage to the South Pacific Ocean (1770). This must have been a congenial task for Jenner, always a lover of natural history. When Cook started on his second voyage, Jenner was invited to go with him as naturalist; but Jenner decided to start practice in his native place and be near his brother, to whom he was much attached. He therefore went back to Berkeley at the age of twenty-two and there he remained all the rest of his life, except for brief, and not always welcome interruptions, by visits to London. He was for years a contributor to the "Gloucestershire Medical Society", begun in May 1788. The Society, locally termed the "Medico-Convivial Society", met at the Fleece Inn, Rodborough. The notes of the meetings, written in his own hand, were obtained many years later by Sir William Osler and, at his death, presented to the Royal College of Physicians of London. Jenner kept up a lively correspondence with Hunter about many topics and Hunter continually asked him to do things for him. When Hunter was sick, in 1777, with angina pectoris, Jenner went to see him at Bath. He did not tell Hunter that he had come to the conclusion, from patients observed in his country practice and from his pathological studies, that the cause of angina was coronary sclerosis, but he told Dr. Parry of Bath and later read a paper on the subject before the "Medico-Convivial Society". Jenner also investigated the relation between heart disease and rheumatism but, unfortunately, his original paper is lost.

At the age of twenty-six, in 1775, he began his careful investigations of the relation of cow-pox to small-pox. The seed, planted eight years before, had begun to germinate. The study took him five years, up to the year 1780. By that time he had a thorough knowledge of the subject. Later, in a letter, he said, "I placed it (vaccination) on a rock, where I knew it would be immovable, before I invited the public to look at it." As a matter of fact he waited eight years more before he made any definite effort to communicate his findings to the public in general.

During this time he was very busy in practice; he served also as a justice of the peace and later as mayor of Berkeley. It was not until he was thirty-nine years of age that he felt that he ought to communicate his findings to the Royal Society. He went to London, talked to various members of the profession, but found them all cold towards the results of his investigations; he was disappointed and returned home.

At that time he had only witnessed the effects of acquired cow-pox on his patients; he had not carried out any inoculation experiments. On May 14, 1796, however, he inoculated his first patient, James Phipps, aged eight from the hand of a milkmaid with cow-pox, Sarah Nelms. On July 1st he tried unsuccessfully to give his small patient small-pox by direct inoculation. It was two years before he had a similar opportunity; cow-pox had died out for a time. After repeating the experiment, he wrote his book, which was published in London in the fall of 1798. The preface was dated June 21, 1798. The

account is brief, but adequate; only a few cases are reported. His experience, however, had been large and he was certain that he was right in his contention. The book was received with mixed feelings. In London, George Pierson, a St. George's Hospital surgeon, was in favor of inoculation; on the other hand, there was much opposition. Pierson got into difficulty by using some contaminated material and gave some of his patients small-pox as well as cow-pox. In the spring of the next year, 1799, Jenner went to London and convinced himself that the material was contaminated. After that, he took various trips back and forth, each time to explain the simplicity of his method and why more complicated procedures or those done with less care were not successful.

In the meantime, vaccination was spreading through England and had reached the Continent, where, especially in Germany, France and Spain, its success was immediate and great. Jenner's name became known throughout the civilized world. It is said that when English people wished to travel on the Continent, a note from Jenner, signed by him, was as good as a passport anywhere. In the spring of 1799, Lettson, leading surgeon of his day in London, sent a copy of Jenner's book to Benjamin Waterhouse in Boston. Waterhouse made a note of it and sent a report to the newspaper under the date of March 12th. In the fall of that year Waterhouse presented a paper on Jenner's work at a meeting of the "American Academy of Arts and Sciences", presided over by John Adams. Waterhouse tried in vain to get some vaccine from Jenner but did not succeed in obtaining it until the next year, when Dr. Haygarth of Bristol, a friend of Jenner's, sent him some. On July 8, 1800 Waterhouse successfully vaccinated his son, the first case of vaccination in this country.

The last twenty years of Jenner's life were clouded by dissension in London and he said in a letter to Lettson: "I have considered London as the center of opposition to the vaccine practice." On the other hand, vaccination was accepted elsewhere throughout the civilized world. Occasionally, during these years, a small epidemic of small-pox would spring up in vaccinated people, but it was usually found that either the vaccine was poor or the vaccination had been improperly practiced. Jenner continued to live at Berkeley until his death, at the age of seventy-four, in 1823.

The house, grounds and church in Berkeley are today (1928) in much the same condition as when Jenner died. It is a pleasant house, called "The Chantry", close by the church. A flat lawn leads from the low doors of the house to the old hut in the yard, with its supporting roof of cleverly entwined branches. In his "Temple of Vaccina" Jenner inoculated many poor patients on Sunday mornings. It is still standing, but sadly in need of repairs; it is now used as a rabbit hutch. From the south side of the yard faces the small but attractive church. The tower, separate from the mainstructure, is covered with ivy said to have been brought from Tintern Abbey and planted by Jenner. His grave is placed in the chancel of the church, beside that of his wife and brother.

Jenner was a typical country practitioner, busy, genial, social, fond of having people come to his house, a good conversationalist, something of a poet and musician, interested in the local medical society, a mayor of the town, a lover of nature, and one who abhorred pomp and ceremony. He preferred to live in his small village rather than in London, where he might have made, presumably, a great success. He was fond of the simple things of life, but the vigorous pursuit of a single idea should dominate our picture of him, for it placed him among the Masters of Medicine.

Intemperate Law-Making*

In his guarded and moderate address to the House of Delegates of the American Medical Association, Dr. William Sydney Thayer, its president, spoke of "intemperate" federal laws, of attempts to "legislate for the whole country as to what we may or may not eat or drink." Such interferences with local and personal rights constitute a "tyranny" that will not long be endured. Such laws defeat their own purposes and cannot be enforced. Though Dr. Thayer mentioned other varieties of arbitrary proscription and with studied courtesy avoided particular reference, the delegates knew what was in his mind. The Volstead act is the perfect model of a liberty-denying statute.

Made to the order of the Anti-Saloon League, perhaps its worst excess is its limitation of the power of physicians to prescribe according to their own knowledge and judgment of the necessities of the case. "It is better that the patient die," said old Dr. Congress, in effect, "than that his miserable life be saved by larger or more frequent doses of 'the intoxicating cup' than I, in my medical wisdom, have ordained." To a physician whose belief in the therapeutic effect of alcohol in given conditions has not been derived from the textbooks of propaganda sedulously disseminated for years by the crusaders of prohibition, this paternal regulation of medical practice must seem unendurable.

Physicians of great eminence have vainly tried to have this part of the law set aside. Prohibition is sacred. Human life is cheap. One would suppose that, whether Wet or Dry, a physician conscious of the responsibilities of his profession would object to the setting-up in Congress of a college of physicians and surgeons. We don't know whether Dr. Thayer, so long a distinguished figure in the world of medicine, is Dry or Wet. He spoke for liberty and tolerance in general, but the thought of the liberty which Congress has been pleased to deny to doctors was in the thought of the delegates, "most of whom rose and applauded vigorously."

A characteristic piece of fiction, composed by a well known figure of the great moral lobby at Washington, in disparagement of Dr. Thayer, led to the adoption by the delegates of a report especially commending "the sentiments expressed by President Thayer concerning legislative enactments that are inimical to the best interests of the medical profession and the public by restricting medical men as to what shall and what shall not be prescribed for the relief of human ills." The House of Delegates kept its dignity and temper. It approved also that temperate judgment and statement which becomes men of science.

Thus federal tampering with the freedom of science is not to provoke men of science into heat and passion. Intolerance, Dr. Thayer had finely said, "is the most fatal enemy of liberty." Fortunately, there are forms of liberty which cannot be taken away by act of Congress. We may assume that there are plenty of physicians who prefer the health of their patients to full obedience to the Volstead law. Here is another highly respectable class of "law-breakers," enforced violators of a law more honored in the breach than the observance.

Is Public Health Purchasable in Rural Districts?

The question of whether "public health is" or is not "purchasable" in rural districts has been often raised in the last decade. Much has been said which would lead the urbanite to believe that because of a dearth of skilful medical practitioners in the rural communities health often is not purchasable. *The Farmer's Wife* felt that

the farmer and his wife, "the consumers," should be heard from, so in December last that publication issued a questionnaire on the subject. Replies were received from 860 farm women representing every state in the Union. These give an interesting nationwide picture of the rural situation, and a report on the survey appeared in the May and June issues of the publication. After a careful analysis of all the facts *The Farmer's Wife* says:

We believe that enough evidence has been presented, however, to show that a large proportion of the population is finding that high-quality medical care is not available readily enough because it takes too much time or too much money, or both, to get it.

Some phase of the situation affects practically every farm family in the United States. Furthermore, most of the trends that have been described . . . are becoming more pronounced every year; if they do not concern you now, the probability is that they will. It seems high time that farm women gave some serious thought to these changing conditions that so vitally affect the health of their families.

The most important factor appears to be how long it takes for the doctor to get to the patient's bedside. *The Farmer's Wife* says:

Three-fourths of all the farmers in the United States still live along dirt roads, nearly a third of them on unimproved dirt roads. Road conditions vary not only by states and by communities but by families. Living along a paved or graveled primary road, rather than in the mud a few miles back from it, has been a matter of life and death in more than one farm household.

This situation operates from both sides. One woman whose baby had been born and had died before any of the three doctors whom they tried to get arrived, writes: "You can't blame the doctor for he has to cover a territory twenty-five miles wide and recently had to deliver fifteen babies in fourteen days." Even in seeking hospitalization everything depends on the roads. "It convinces one that from the health standpoint farmers need 'road relief' as much as any other one thing."

Even on good roads with automobile service, where a physician can be secured from fifteen miles away as quickly as they formerly got one from three miles away, a mileage levy of one dollar per mile is usually charged one way for visits to rural homes. This is one of the chief reasons why the cost of sickness is high for farmers.

The average cost of getting the nearest doctor out to the eight hundred and sixty homes represented in our survey is \$7.63, and it varies all the way from \$1 to \$75. For an eighth of them the cost is \$15 or more. This is one of the reasons why farmers are worrying over the disappearance of country doctors.

There are two sides to the story of increased cost. "It was recently estimated," says *The Farmer's Wife*, "by one of the medical journals that doctors give away a million dollars of treatment daily. No one knows the exact amount, but certainly it is much. I have seen the books of country doctors who had as much uncollected at the end of the year as they had taken in."

But because there is so much charity work . . . the burden is partly passed along to us in the form of higher fees. If we could devise some way whereby more of our people could and would pay the doctor, the cost of medical service for the average family would not be so enormous.

* * *

In the question of time required to get to the rural home we should like to call attention to the following:

Discussing the financial aspect of health demonstrations Mr. Homer Folks said (*A. J. P. H.*, Feb. 1927, Supplement pp. 5-12):

* Editorial from the New York Times, July 11, 1929, reprinted in the *Journal of the American Medical Association*, July 20, 1929 (p. 228).

We now know that in a rural area like Cattaraugus County, New York, under a similar public health nursing system on a generalized plan, the cost is more than twice as much, nearly \$2.28 per visit, as against \$0.89 in East Harlem. . . . Analyzing the increased cost in detail and comparing it with East Harlem, it is shown that the increased cost in Cattaraugus County is almost wholly in transportation. In other words we now know that the people of rural communities in order to secure a public health nursing service of equal efficiency to that provided in a congested city area, must pay twice as much for it—the cost of getting the nurse to the patient being the largest factor in the excess. This high cost of getting the nurse to the patient may be considered in itself a full justification for this State sharing with the locality the cost of rural health work on a fifty-fifty basis. . . . It is obviously necessary, if success is to be achieved, that the health officials must have the support of various elements in the community. . . . I did not at that moment stress what, of course, we all realize as a primary factor in any health effort, and that is, the cooperation of the medical profession, and in the organization of a health demonstration that point must necessarily be taken into account.—*Health News* July 29, 1929.

Prof. Regaud on Radium

In his Cavendish lecture entitled the Progress and Limitation in the Cure of Malignant Diseases by Radium, delivered before the West London Medico-Chirurgical Society on Friday evening last, Prof. Claude Regaud, director of the Radio-Physiological Laboratory of the Radium Institute in Paris, made a brief survey of radium therapy (or Curie-therapy as he prefers to call it), from its first application for this purpose about 30 years ago up to the present time, and pointed out the enormous advances which have been made. Many different methods of attacking cancer by means of radium have been tried, but in general there were three methods in common use: (1) Internal radiation: by the insertion of radium into one of the body cavities. (2) Interstitial radiation: which is radiation by means of radium containers inserted actually into the tissues. (3) External radiation: where the radium applicators may be in contact with the surface of the body or supported at a distance away. To this method of radiation from a distance he attaches the name of "telecurietherapy" and considers that its use must always be limited by the scarcity and high price of radium. Much had been hoped for from internal radiation, but with the exception of the treatment of carcinoma of the cervix these hopes, said Dr. Regaud, had not been realized. He considered the interstitial method of radiation to be the most successful; a wider combination of surgery and radium therapy along these lines was a promising field of research in the treatment of malignant disease. He illustrated the various methods of treatment both by photographs of cases and by statistics of results obtained at the Paris Institute. Turning to the future Dr. Regaud thought that it was the radio-physiological side that offered scope for fruitful investigation; if means were found to increase the narrow margin of radio-sensitiveness, which lies between normal and cancerous tissues, it would constitute a momentous discovery. Existing obstacles in the path of the treatment of cancer by radium were, he said, very grave. They included the apparent lack in certain cancer cells of any sensitiveness to radium, the presence of widespread local extension, and, above all, dissemination of the disease. Radium is not a panacea for cancer: far from it! The public, and even medical men, do not always realize the serious difficulties which are met with in the use of radium. Whilst awaiting further developments in the radium treatment of cancer we must rely upon early diagnosis followed by early and proper treatment by surgery or such radiotherapeutic methods as are of proved value. False hopes must not be raised or wrong views allowed to prevail; and Dr. Regaud ended with a plea for enlightenment of the medical profession as well as of the general public through social and medical organizations.—*The Lancet*, June 29, 1929.

Compensation

As one grows older, contemporaries and friends drop away, to be no more, but some continue with us and remain as fresh in our mind as they ever were while they walked by our side. And with the sadness of the personal loss, there is perhaps this consolation that in memory weaker sides of the man vanish while what was best in him shapes itself in greater relief and finer form.—*Horst Oertel, Canadian Medical Association Journal*.

Correspondence

An Appreciation

To the Editor of THE MEDICAL TIMES:

I have enjoyed your journal very much, and I notice that your pages especially attract writers who use rationalism and even "intuitive" reasoning (in contradistinction to the slow scientific and statistical methods, with their averages and means, and their mass conclusions which do not apply to individual cases) to arrive at important discoveries by the short cuts of Claude Bernard, allowing the proof very often to follow the discovery instead of to precede it.

Your hearty welcome to such writers is one of the bright spots in medical journalism.

Yours cordially,

GEORGE H. TUTTLE.

South Acton, Mass., Aug. 8, 1929.

Drunk in the Abstract

The standardization of drunkenness is an ancient difficulty. A medical witness stated lately at Marylebone police-court that the defendant was drunk and unfit to be in charge of a motor-car. The magistrate, Mr. Hay Halkett, thereupon invited the witness to disregard the defendant's relation to the motor-car. "You have nothing to do with the car," said Mr. Halkett, "all you have to say is to answer whether he was drunk." If a witness let his mind dwell on the motor-car, continued the magistrate, he was apt to slide into the dangerous theory that, because a car was involved, therefore it was an offence for a man half drunk to be in charge of it; the man must be so drunk as to be justifiably arrested in the street for disorderly conduct. Medical witnesses, therefore, must simply ask themselves the usual questions by which drunkenness is tested. Could the accused co-ordinate his faculties? Could he speak properly? Was there anything he could not do which he could do ordinarily? These remarks were the more significant because the law is inclined to ignore drunkenness unless the accused is also riotous or disorderly or is engaged at the moment in some particular employment. Thus it is an offence to be drunk while acting as a pilot or as the master of a ship, or as a railway employee, or a postal official, or while in charge of cattle, or of a child in a highway or public place, or while in possession of loaded firearms. Earlier enactments make it also an offence to be drunk in charge of a steam engine and of various carriages, and now, under Section 40 of the Criminal Justice Act of 1925, it is an offence to be drunk while in charge on any highway or other public place of any mechanically propelled vehicle.

In spite of the learned magistrate's direction it is, we think, a little hard for a medical witness to concentrate upon the presence or absence of a kind of abstract drunkenness without taking into account the defendant's relation to his environment. A man may be judged drunk by the way he behaves with his car. Another element in the situation is a certain discrepancy between the medical estimate of drunkenness and the police estimate. A man may be drunk, but if his condition is not too provocative—if, in fact, he is not *very* drunk—he may well find his unsteady way homeward without arrest. We seem to be no nearer to a simple universal standard of drunkenness which witnesses can easily apply and magistrates can accept. It would probably be easier for the police-surgeon if his task were merely to say whether or no the motorist had indulged in alcohol to such an extent as to unfit him for driving. This is what the law has enacted for the pilots and crews of aircraft. The Air Navigation Order penalizes them if they place themselves under the influence of any narcotic sedative or stimulant drug so as to become unfit for their duties in respect of the aircraft. Perhaps some day the law will enact a similar penalty for the motorist who, without being fully drunk, is under the influence of alcohol. If proof of such influence is easier than proof of drunkenness, the magistrates may welcome such a change in the law. Even under the present system, out of a total 120,629 motoring offences, 926 persons were found "drunk in charge" of a car during the latter half of last year. It is understood that the metropolitan stipendiary magistrates have recently voted in favor of retaining the speed limit partly on the ground that excessive speed, though not necessarily a cause of accidents, is a fact more easily proved than mere dangerous driving. At any moment public opinion may be aroused by the appalling loss of life due to traffic accidents. The latest statistics show that something like 6000 people are killed on our roads in a year. The only redeeming feature of this holocaust is the fact, which the figures seem to support, that injuries to children are diminishing. Is the youngest generation evolving a protective caution or nimbleness in traffic which the older pedestrians cannot acquire?—*The Lancet*, May 25, 1929.

Diagnosis and Treatment

Diagnosis of Early Pregnancy

Another reputed test for pregnancy has made its appearance, based on the hypothetical existence of a specific hormone modification. We referred last summer (June 2nd, 1928, p. 952) to A. C. Siddall's report of the discovery in the blood of a pregnant woman of a hormone which caused enlargement of the uterus and breasts. Now, in the *Zentralblatt für Gynäkologie* for January 5th (p. 15), S. Aschheim describes the technique and results of the test which he has devised with B. Zondek. He states that in pregnancy there are to be found in the urine very large amounts of the hormone of the anterior lobe of the pituitary body. To five infantile mice weighing from 6 to 8 grams are given subcutaneous injections of the morning urine of the patient to be tested, the amounts ranging from 1.2 to 2.4 c.cm. An injection of the urine is also made into a castrated mouse in order to test by the Allen-Doisy method the presence of ovarian hormone; this however, appears in the urine in pregnancy later than the pituitary hormone, and is found also in the urine of non-pregnant subjects. After one hundred hours the animals are killed and the ovaries are examined with the naked eye or with a pocket lens, or, in some cases, by serial sections. Aschheim describes threefold changes in the ovaries resulting from the action of this pituitary hormone: (1) the production of large follicles, which may ripen and burst; (2) bleeding into the proliferating follicle; (3) luteinization of the theca and granulosa cells of the follicle, with formation of corpora lutea atretica. The last two of these findings signify a positive result of the test; follicular enlargement, although denoting presence of the hormone, is apparently induced by such quantities as are present in the urine of a small percentage of non-pregnant patients. Before the animals are killed the presence or absence of vaginal swelling, hyperemia, and discharge such as accompany oestrus is noted; these signs are attributed to ovarian hormone, in the production of which the hormone of the anterior lobe of the hypophysis (in the view of Zondek and Aschheim) acts as a stimulant. The reliability of this test in the detection of early pregnancy appears, in the hands of Aschheim, to have been considerably greater than that of the other biological tests for pregnancy which have been described from time to time. In 318 urines from non-pregnant female patients the test was negative in 315; in 15 from male patients, negative in 14. Among 296 tests in pregnant women there were only 7 negative results; 56 cases of pregnancy of five to six weeks' duration gave 54 positive results, and 68 pregnancies of seven to eight weeks' duration 66 positive results. The earliest diagnosis made was in the case of a patient with thirty-three days' amenorrhoea. About one week after labor the reaction is no longer given by the urine, and after the death of the fetus in the uterus the reaction is said to disappear in about eight days. Twenty-two cases of tubal pregnancy were tested; 16 gave a positive result, and the remainder—in which foetal death had occurred some time previously—a negative result. Two cases of hydatidiform mole gave positive results, and in one a relatively small amount of urine (0.05 c.cm.) sufficed. Aschheim mentions a case of chorion epithelioma following hydatidiform mole in which the Zondek-Aschheim test was positive twenty-one months after hysterectomy, when nephrectomy was performed for metastasis; the hormone persisted in increasing concentration in the urine until death. It may be inferred that not the presence of the living foetus, but that of living chorionic epithelium, is essential for a positive test; it is recommended that after the occurrence of hydatidiform mole the Zondek-Aschheim test should be performed at intervals for some months at least, in order to detect the possible presence of chorion epithelioma. In the same issue of the *Zentralblatt* (p. 22) L. Kraul and J. Rippel report their experience of the Zondek-Aschheim test in thirteen very early pregnancies, including one in which there had been eight days' amenorrhoea only, and eight of which were subsequently shown to be pregnancies of four weeks' duration; all gave positive results. In two cases a positive test led to the correct diagnosis of early pregnancy in myomatous patients in whom amenorrhoea might, it was thought, indicate either pregnancy or approach of the menopause. In ectopic pregnancy the result of the test depended on foetal survival. A positive reaction was given in a case of hydatidiform mole in which no foetus was found. Odeschalchi has obtained good results in thirty cases of pregnancy in the later stages (see *Epitome*, February 2nd, para. 119). H. W. Louria and M. Rosenzweig record briefly in the *Journal of the American Medical Association* (December 22nd, 1928, p. 1988) the employment of this procedure in 132 cases. Their percentage of error was about 5, and they are confident that this can be reduced. The practical importance of such a test, if reliable, needs no emphasizing, but experiment on a large scale is necessary to establish its clinical value.—*Brit. M. J.*, 1: 259, 1929.

The Causes and Diagnosis of Intra-Oral Carcinoma

The group of intraoral cancers is notable for accessibility, curability and preventability. Nevertheless, in spite of these advantages on the side of the patient, the U. S. Census for 1914 showed about 3,500 deaths from intraoral cancer. It is therefore obvious that these accessible cancers are not recognized as early and treated as skillfully as the present state of our knowledge permits.

The various intraoral cancers differ markedly in symptoms and indications for treatment, and few important general statements may be made concerning them. The significant facts relate to the individual forms of the diseases. Buccal uncleanness and chronic infection seem to be concerned with the majority of intraoral cancers, and both these conditions are remediable. Since dental decay and irregularities, pyorrhoea, and imperfect dentures lie at the bottom of much intraoral sepsis, the responsibility for preventing and detecting intraoral cancer falls chiefly upon the dental profession. On the other hand, buccal and pharyngeal hygiene is a personal duty of the patient, and the treatment of infection generally falls to the medical profession, so that the co-operation of patient, physician and dentist is required to meet all the hazards of intraoral cancer.

Cancer of the Lip. This form of cancer is so conspicuous and obtrusive that it seems strange that it should ever be permitted to reach the extent so often encountered. Its causes are numerous and varied, but chronic irritation from protruding teeth, tobacco, and mechanical irritation from pipes, or other objects habitually held in the mouth are the common exciting factors. Carrying nails and pins in the mouth, wounds by hot steel splinters or hot tar, single punctured wounds, cuts by the razor, have all been more or less directly followed by cancer of the lip. The offending tooth is usually decayed, broken and ragged, but it may merely be slightly out of line or slightly protruding, but it impinges on the lip and produces thickening of the epithelial layer at the point of impact. Or it repeatedly produces slight lacerations which are slow to heal. Any of these habitual wounds may lead to cancer. When the subject is tobacco user, male or female, an additional source of irritation is provided. Since the smoking habit has become widely adopted among women, cancer of the lip in the female sex seems to be increasing. The early stages of cancer of the lip vary in appearance. The commonest form is a localized pearly thickening, elevation, or warty outgrowth. Or, the disease seems to begin in a chronic fissure or superficial sore which does not heal but develops the indurated edges and slow erosion of the primary ulcerating cancer. Induration about the edges of a sore on the lip is always suspicious. The third form of lip cancer arises in lips which are the seat of a scaling moist inflammation, seborrhoeic dermatitis and in these the cancer appears over a wide area and may lack induration. The treatment of any of these suspicious lesions of the lip by caustics, especially by nitrate of silver, is unwise. They should be referred to a cancer specialist.

Cancer of the tongue, floor of mouth and cheek are caused by bad teeth, tobacco and syphilis, importance in the order named. The degree of buccal uncleanness in the average case of mouth cancer is astonishing, and the cause of the cancer is at once apparent. A decayed, broken or ragged tooth, or one which is merely out of line but otherwise smooth, is very often found exactly opposite the cancerous area. Sharp edged teeth are always undesirable and should be ground down or extracted. Loose and ill-fitting plates frequently rub and erode the adjacent mucous membrane and after months or years, a warty or eroded cancer develops. Some of the metallic compounds used in plates develop measurable quantities of electricity which is probably a factor in the irritation. Usually the irritation which leads to cancer extends over a long period, but in rare cases a single injury or tongue bite fails to heal and eventually develops cancer. The irritation of tobacco adds an effective element to the wounds produced by teeth. Tobacco often causes—first, leukoplakia, white spot disease, which exhibits numerous small white opacities in the mucous membrane. These spots tend to become warty, thickened, and eroded, and when these features exist in pronounced form, the suspicion of cancer should be adopted. In such a mouth, it is generally wise to remove all decayed teeth, and all dental plates, and advise against the use of tobacco. The development of cancer is well marked old leukoplakic spots is often quite rapid. They are particularly dangerous on the cheek and over the gingival border.

Syphilis occurs in a considerable proportion of cases of cancer of the tongue, but its exact relation to the cancer is difficult to determine. Syphilis produces diffuse induration, scars and fissures, and occasionally the characteristic, "geographic tongue," marked by more or less regular lines depressing the mucosa. These lesions render the tongue more susceptible to the action of tobacco, wounds and infections. In the syphilitic scars and fissures, leukoplakic spots form, induration appears, and cancer develops, often in multiple foci over a wide area.

Infection plays a large part in the causation of intraoral cancer. The infection resides in decayed teeth, tonsillar crypts, base

of tongue, peridental infections, and about fixed or movable dentures. In addition acute infections are readily established in the chronically infected mouth. Bacteriologically the mouth is the dirtiest cavity in the body and the offending bacteria are of highly pathogenic types. The French have a proverb—"La mort entre par la bouche"—"Death enters by the mouth."

The great number of local and general infectious processes arising from mouth sepsis is well known and renders buccal hygiene a major medical and dental problem. Its relation to cancer is found in the resulting chronic inflammations which are added to the effects of tobacco, wounds, and leucic erosions. Thus every resource which the dentist can employ to correct buccal sepsis tends to prevent cancer as well as many other lethal diseases. To review these methods which form a large chapter in dental therapeutics, falls beyond the scope of this article, but the pathologist would urge that the cleansing of the mouth by chemical agents is an impossibility, and that the dentist and physician must rely upon more mechanical and physical methods. Much harm is done by the habitual use of chemical dentrifices, violent scrubbing and bruising of the gums, tongue, and cheeks. The writer has previously offered evidence in favor of the exclusive use of a mild soap, with scrubbing and gargling of soap suds, as the safest, most efficient and most generally available mouth disinfectant. The fixed points of infection are numerous and must be removed by special procedure.

In nearly all cases of mouth cancer, the salivary glands are the seat of chronic infection and inflammation, which alters the quantity and quality of the saliva and maintains a source of infection which seems irremediable.

The appearance of early mouth cancer varies extremely and it is probably due to this fact, and the impression that cancer is easily recognized, that the disease so often escapes detection in its early stages.

The location is usually in exposed points, but very often it is in pockets and sulci, which are difficult to detect and require very thorough exploration by an expert. The base of the tongue, behind the pillars of fauces, in tonsillar crypts, wall of pharynx, and along the floor of the mouth, especially at the frenum of the tongue, are favorite locations where the disease escapes notice. Deep between decayed teeth, cancer arises from the surface epithelium, or from the gubernaculum dentis, and reaches the surface only after excavating a cavity in the mandible. The true adamantinomas develop more deeply in the mandible, and cause expansion of the body of the bone.

The lesion itself is generally first a thickening of the epithelium, leukoplakic or pearly, and many lesions assume a definite warty character. Yet many mouth cancers are soft, early eroding, bleeding, painful and much inflamed, suggesting simply infectious process or tuberculosis. A positive Wasserman reaction, leading to the assumption that the disease is luetic, causes much delay and costs many patients their lives, when cancer exists in a syphilitic subject. Mouth cancer is one of the fields in which the biopsy is indispensable and too often neglected.

In the floor of the mouth, tonsils, and pharyngeal wall, the usual signs of cancer are unreliable. Here the early disease is very difficult to detect, since it may begin deep in the tissues and simulate simple chronic lymphoid hyperplasia or a catarrhal erosion. Therefore, the dentist and physician should regard with suspicion any persistent chronic swelling or erosion in any part of the buccal or nasopharyngeal mucosa.

Dentistry also shares a large responsibility for the prevention of cancer of the nares and sinuses, both in young subjects and adults, because the nasal and sinus infections which are mainly responsible for these forms of cancer, frequently arise from chronic mouth infections and disorders of the teeth.

Particular attention should be drawn to the fact that cancer and other malignant tumors of the mouth, nares, and pharynx often occur in children or young adults, and are often overlooked because of the impression that cancer is a disease of adult life. No age is immune to these diseases, and in recent years it has appeared that cancer is increasing in frequency, certainly in recognition, in young subjects.

In addition to the common epithelial cancers of the mouth, there is a considerable variety of rare tumors which are often first encountered by the dentist. Mixed tumors of the salivary gland type appear on hard and soft palate, cheeks and pharyngeal wall and form slowly growing solid and generally protruding masses which show little tendency to ulcerate. Giant cell tumors of the mandible form after violent extraction of teeth and produce fungating masses resembling granulation tissue. Or, these tumors arise more deeply in the shaft of the bone and cause slowly progressive hard swellings. In the X-ray plate they appear as multicystic rarefied areas.

Lymphosarcoma of the tonsil is curable in the early stages, but very fatal in advanced stages. It affects one tonsil as a rule, and causes progressive and marked enlargement of the organ. The remaining pharyngeal mucosa is generally much congested and the entire pharyngeal ring of lymphoid tissue may be much en-

larged. A single much enlarged tonsil is always suspicious of lymphosarcoma.

It is highly important to inquire what happens in the case of patients who reach an incurable stage of intraoral cancer often under the care of dentists and physicians. An investigation of a series of such cases reveals two main reasons for the failure to control the disease: First, the early stages of cancer of the mouth are not always readily recognized. The disease may begin in a small focus, which is unimpressive and painless, or it is mistaken for an innocent process, and efficient treatment is delayed, or unwise treatment, generally by caustics, aggravates the disease.

Second, the progress of cancer in the soft vascular mucous membrane of the mouth or pharynx, is often quite rapid, and at times almost explosive. Within two or three weeks, a small carcinoma of the tongue may become transformed from a strictly localized lesion into an infiltrating and ulcerating process. Delay in determining the nature of a suspicious sore or wart, by biopsy or by evaluation of positive clinical data, permits many a small easily curable cancer to reach a stage in which it entails a serious therapeutic procedure or offers a poor prognosis from any treatment.

While most of these mistakes occur in circles where a high order of intelligence is not concerned, not a few arise under the very best conditions, where both patient and physician are alert.

If the mortality from intraoral cancer is to be markedly reduced, then every known cause of cancer of the mouth must be recognized and eradicated, which is mainly a function of dentistry, and every suspicious swelling, erosion, wart and sore, in the buccal pharyngeal mucosa must be regarded as an emergency, calling for immediate, expert and positive diagnosis.—*American Society for the Control of Cancer.*

The Treatment of Otitic Meningitis

G. J. Jenkins is of opinion that the general principle of the surgical treatment of meningitis must be that of the treatment of a similar inflammatory process elsewhere. The meninges should be drained from the point of maximum infection and the flow encouraged of normal cerebrospinal fluid over the infected area. In most cases, in addition to simple drainage of the subarachnoid space, he washes out the space when possible and introduces a small quantity of specially prepared iodoform; this method has given better results than simple drainage. These patients almost always have a low blood-pressure, and endeavor should be made to raise it, as a low blood-pressure diminishes the flow of cerebrospinal fluid; as much liquid as possible should be given, and also glucose; pituitrin helps for a time, but there seems to be more improvement with digitalis and ephedrin. Atropine or morphine should not be given at any stage, as these drugs also tend to diminish the flow of fluid; the best sedatives are bromides and paraldehyde.—(*Journal of Laryngology and Otolaryngology*, April, 1929, p. 239.)

The Prevention of Tuberculosis

P. Nelis insists on the value, in the prophylaxis of tuberculosis, of the vaccination of infants by the B.C.G. vaccine (*vaccin bilité de Calmette et Guérin*). He is of opinion that this constitutes a new and powerful weapon against tuberculosis. It has been shown that the vaccine is, in any case, absolutely harmless, and experiments with it on animals susceptible to tuberculosis have failed to give rise to any tuberculous lesions. In a total of 4,854 infants who were not vaccinated with this vaccine, born in 1925, 1926 and 1927, the public health authorities and the dispensaries have treated 1,989 born of tuberculous mothers and 2,865 born in tuberculous families; of the former, the mortality from tuberculosis has been 18 per cent, and the general mortality 24 per cent; of the latter (born and brought up in tuberculous families) the mortality from tuberculosis has been 13.9 per cent, and the general mortality 18 per cent. On the other hand, during the same years 2,368 infants were treated with B.C.G. vaccine, 879 born of tuberculous mothers and 1,489 born in tuberculous families; of the former the mortality from tuberculosis has been 3.8 per cent, and the general mortality 16 per cent; of the latter (born in tuberculous families) the mortality from tuberculosis has been 2.6 per cent, and the general mortality 8.9 per cent. These figures would seem to bear out the opinion of the author on the value of prophylactic treatment with B.C.G. vaccine.—(*Bruxelles-Médical*, January 20, 1929, p. 335).

Angina Pectoris

If the pain be unrelieved by one or two doses of nitroglycerin and even grows more severe and is associated with alarming symptoms, coronary thrombosis must be thought of. Here morphine must be used at once and until relief comes, for the nitrites do no good and may even do harm.—Brown, *Calif., W. Med. Mich.*, 1929.

Public Health

Massachusetts General Hospital Cutting Cost of Medical Care

A new plan for reducing the cost of medical care to persons of moderate means has been undertaken by the Massachusetts General Hospital of Boston with the aid of the Julius Rosenwald Fund. The medical staff of this hospital, in cooperation with its trustees, have agreed upon a plan whereby hospital charges and medical fees will be set at rates well below those now paid by patients in the private rooms and yet sufficient to cover the cost of the hospital care and give fair compensation to the physicians and surgeons. A significant feature is that the distinguished medical staff of this hospital, one of the best known in the country, have themselves initiated a schedule of fees at moderate rates and have asked that these fees be collected by the hospital acting as agent for the doctors. The new service will about cut in half the usual total bill for hospital sickness of a middle class patient.

This service will be rendered in the Baker Memorial Building, a special section of the hospital, which has 300 beds. There are private rooms and also provision for two or four patients in larger rooms. The rates including all nursing service are from \$4 to \$6.50 per day.

The Julius Rosenwald Fund has appropriated \$150,000 to pay a substantial part of the deficit which is expected to be incurred during the first years, until the beds are fully occupied. After that, the Baker Memorial Building is expected to be self-supporting.

In commenting on this action by the Julius Rosenwald Fund, Doctor Michael M. Davis, its Director for Medical Services, said: "Many hospitals in this country have begun to provide moderate priced or so-called semi-private accommodations. The sick man, however, is not interested merely in the hospital's charges, but in his total bill, which is made up of what he must pay the hospital together with the fee of his physician. A few hospitals have taken steps towards regulation of professional fees, but the Massachusetts General plan seems the most clear-cut and extensive which has yet appeared for grappling directly with the middle-class man's bill. It also evidences complete cooperation between the doctors and the hospital management to this end. The physicians' professional relation to these patients will not be interfered with by the plan. At present a two-weeks' stay of a patient in the private pavilion of the Massachusetts General Hospital with a surgeon's fee would usually cost \$250 or more in this hospital, as in many others. If a patient stayed the same period in a ward bed and paid the full ward rate, it would cost him only about \$60 and the doctor's work would be done as charity. The large majority of Americans do not want charity, yet they are unable to pay the usual high charges for private rooms and private physicians. The Massachusetts General Hospital plan fills the gap."

The "Throw-Away-Your-Glasses" Fraud

The eyesight of thousands of persons is being jeopardized by spectacles sold through newspaper and magazine advertising by unscrupulous mail order houses, according to the National Society for the Prevention of Blindness, which brands the operations of these firms as "both a fraud and a menace." This warning has been sent to publishers throughout the United States in a special bulletin of the National Better Business Bureau. In the same bulletin, the Society also terms as "quackeries" the mail order courses in eye exercises which advertise a relief from eye strain and defective vision, without a thorough examination.

"It is impossible for glasses to be properly fitted by mail, and in most cases attempts to do so will result in harm to the eyes of the wearers," says the Society. "These mail order houses are selling glasses without asking for any symptoms, without testing the vision of the prospective purchaser, and without even an inquiry as to the condition of health of the eyes. These optical quacks ask merely: 'How old are you?', 'How many years have you worn glasses, if any?', and 'What is the shape of your face—round or slender?' Upon this information they offer to fit any person with glasses, promising 'the most perfect vision of any lenses you can get.' 'These splendid glasses,' their circulars promise, 'will enable anyone to read the smallest print, thread the finest needle, see far or near, and will prevent eye strain or headache.'"

"Investigation has shown that the glasses which are actually sent are simply a fair grade of magnifying glasses mounted in an extremely poor grade of frame. These are advertised as 'scientifically ground and curved lenses.' The glasses do nothing that the exploiters claim for them—they do not often relieve eye strain, they do not fit any eyes, except by mere chance. The National Society for the Prevention of Blindness feels that this is a dangerous situation. It has become a well established fact that fitting of glasses where needed requires an examination and eye test by a qualified specialist, and special glasses for each case made upon prescription."

"Probably the most serious aspect of the question, from the standpoint of the prevention of blindness, is the missed medical problem. Many disease conditions which finally result in partial or complete blindness first produce disturbances of vision which are only temporarily corrected, hence concealed, by lenses. In the absence of a complete eye examination when glasses are prescribed, the underlying evidence of eye disease, frequently an indication of disease of the general system, may be overlooked until it is too late to prevent blindness and widespread physical disaster."

Concerning the mail order courses in "eye exercises," the Society says: "The slogan, 'Throw Away Your Glasses,' with its many variations, is used to advertise a relief from eye strain and defective vision which is not borne out by the findings of medical science. It is true that ophthalmologists do, under certain conditions, prescribe for their patients certain eye exercises, chiefly of the muscles performing movements of the eye ball and aiming to bring muscles into more complete coordination. It is also true that the medical profession agrees generally that such eye muscle exercises should be attempted only under careful and adequate supervision. Such muscle training should only be prescribed after a complete eye examination has been made, supplemented frequently with a general physical examination and laboratory tests. Wisely applied, muscle tests may relieve certain cases of eyestrain where glasses are not really indicated; but to 'Throw away your glasses' without examination and competent advice may result in serious eye strain and may even cause profound disturbances of the nervous system."

"This quackery is foisted on the American public in two ways: first, through advertising in the daily press and various weekly and monthly publications; and second, through disciples of this method who travel from city to city and, with the help of advertising in the local press, hold meetings at which their so-called aids for better eye sight are sold. They take advantage of individual gullibility, and the representatives usually know so little of the anatomy of the eye and of the physiology of vision that they are not conscious of the possibility of great harm from their false teaching, or of the dishonest method of promoting their work."

Health Conditions Throughout the World

A report recently submitted to Congress by Surgeon-General H. S. Cumming of the Public Health Service summarized in an interesting manner the health conditions in foreign countries during the past fiscal year. It is pointed out that on account of the relation of commerce to the public health in connection with the spread of epidemic diseases it is necessary to keep advised as to the prevalence of diseases not only in the United States but insofar as practicable throughout the world.

There was during the year a constant interchange of sanitary information with other nations of the world through the International Office of Public Hygiene of Paris, the Pan-American Sanitary Bureau, and the Health Section of the League of Nations. Valuable information was also received by the Public Health Service from American consuls, officers of the service stationed abroad, and directly from foreign governments.

The necessity for coöperation among the nations of the world in preventing the spread of diseases dangerous to the public health has been more widely recognized during recent years than formerly. Experience has demonstrated that disease does not regard international boundaries, and the advance in the facilities for rapid transportation increases the danger of the introduction and spread of communicable diseases.

A noteworthy event which occurred during the past year was the ratification by the Senate in March 1928, of the International Sanitary Convention signed in Paris in June 1926. This revised the convention of 1912. The convention signed at Paris and ratified by the Senate was later promulgated by the President. The revised convention makes important changes in the requirements for international notification of the presence of quarantinable diseases and imposes an obligation upon the Public Health Service as well as provides means by which this country may receive warning of threatened danger of epidemics from other countries.—*United States Public Health Service.*

Undulant Fever

In 125 cases of undulant fever that occurred in Iowa a clinical investigation made by A. V. Hardy revealed that most of the patients lived on farms or in country towns. The occupational groups chiefly involved were farmers and packing house workers. There was a striking variability in the symptomatology and course. The relative frequency and severity of the common symptoms is shown. Positive physical observations were few, the most frequent being an enlarged spleen. The temperature was generally intermittent or remittant, and undulations were not often apparent. Ordinarily there was a slight leukopenia and a decrease in the neutrophils. The diagnoses were confirmed by agglutination tests, almost always repeated, and, when possible, by blood cultures.—*J. Am. M. Ass.* 92: March 16, 1929.

The Physician's Library

Interns Handbook: A Guide to Rational Drug Therapy, Clinical Procedures and Diets. By Members of the Faculty of the College of Medicine of Syracuse University. Under the Direction of M. S. Dooley, A.B., M.D., Chairman Publication Committee. Philadelphia and London, J. B. Lippincott Company. 1929. Price \$3.00.

Many years ago, when the writer was himself an intern, a little book, passed along to him by the outgoing house surgeon, proved a most valuable guide. He is ashamed to confess that the author and title have passed out of his mind. But that old handbook would serve but little purpose today. This new handbook is an admirable gauge wherewith interns of the old order may measure the progress that has been made in a few years, marvel greatly thereat, and proceed to brush up. Let it be understood at once that the staff member, the general practitioner and the specialist will all alike find much knowledge and technic herein correlated for the first time.

Scientific diagnosis is assumed; what comes after in the way of carrying out treatment is presented in this book of 254 pages in standardized form by a group of experts whose names cover a whole page, but whose work has been ably edited by Professor Dooley.

It is a category of procedures. Part I deals with Drugs, Prescribing, and the Treatment of Poisoning; Part II includes the standard clinical procedures: medical, surgical and special; dietaries; technic of routine tests; and the technic of safe-guarding laboratory specimens.

It is, in short, a positive, practical, concise guide to treatment and management, as indispensable to the practitioner, it seems to us, as to the intern, and an effective antidote to indecision.

Principles and Practice of Minor Surgery. By Edward M. Foote, M.D., and Edward M. Livingston, M.D. D. Appleton and Co., New York. 1929. Sixth edition. Pp. 787. 420 engravings, chiefly from original drawings and photographs.

The reviewer has been guided for many years by Dr. Foote's book and welcomes this new edition, filled as it is with practical material, and written in such a way as always to fascinate the reader. The book is divided into three parts—surgical technic, surgical processes and localized surgical treatment. The first two of these have been assigned to Dr. Livingston. His attitude toward the subject is that of the younger generation of surgeons. Dr. Foote has thoroughly revised the chapters devoted to the surgical affections of the various parts. The publishers are to be complimented on the artistic arrangement of the text. The working index is complete. The chapters on dislocations and fractures are valuable contributions. Acute inflammations are discussed in detail. Operative technic is admirably presented. All in all, it is one of the most valuable books we have in actual use every day.

M. W. T.

Gynecology. By Lynn Fulkerson, M.D., P. Blakiston's Son & Co., Philadelphia. 1929. Pp. 842. 612 illustrations, three in color. Price, \$9.00.

The author gives in this volume a simple, clear, concise yet comprehensive discussion of the essentials of medical and surgical gynecology. In the surgical section the modern idea of continuous rather than interrupted sutures wherever possible is suggested. The illustrations are excellent. The author writes well and shows an ability to choose his words without waste of time. The chapters are well arranged. The general practitioner will find treatment well taken up. The chapters on radium and electrotherapy are thorough. One-third of the book is devoted to surgery.

Clinical Laboratory Methods. By Russel L. Haden, M.D., 3d Edition. C. V. Mosby Co., St. Louis. 1929. Pp. 317. Price \$5.00.

A practical working manual for the clinician, giving the best tests in a simple manner. It is not a textbook but the outgrowth of many years of careful note-taking. There are sixty-nine illustrations and four color plates. Only one method is given for each quantitative examination and only one for a qualitative test where a single one is adequate. A valuable work.

International Clinics. 39th Series, 1929. J. B. Lippincott Co., Philadelphia. Pp. 305.

A quarterly review of clinical lectures, including The Present Status of Pyelitis in Children, by Louis Barash; The Periodical Physical Examination, by Harlow Brooks; Manners and Morals, by Lewellyn Barker, and several other equally good articles, up to the usual high standard of this publication.

Principles of Pathology. For practitioners and students. By H. D'Arcy Power, M.D., and William W. Hala, M.D. D. Appleton and Co., New York. 1929. Pp. 787. 298 illustrations, many of them in color.

The authors have aimed to give their experience in the diseases that are likely to come within the range of general practice and rare conditions have been given only brief reference. In this way it differs from the usual textbook on pathology. The authors prefer plain English, thereby avoiding vague terms and misleading nomenclature. Rare conditions have been left to monographs or encyclopedias. Extraneous information has been avoided. There has been a long-felt need for such a practical volume on pathology and the authors have admirably succeeded in their presentation.

Tuberculous Intoxications. Concealed and Masked Tuberculosis. A Clinical Study. By Joseph Hollos, M.D. Wm. Wood & Co., New York. 1928. Pp. 132. Price, \$3.25.

This book opens up a subject for deep thought. How many patients do we see, presenting indefinite symptoms, who later reveal that they have tuberculosis? Tuberculosis remains concealed as anemia, epilepsy, neurosis, rheumatism, dysmenorrhea, neuralgia, etc. The chapters include tuberculosis immunity, endocrine disturbances, neurasthenia, rheumatism, neuralgia, epilepsy, psoriasis, gastric and intestinal disorders, prognosis, the immune-blood treatment, etc. The author has faith in Spengler's immune-blood. He has made an intimate study of latent tuberculosis. The immune-blood treatment is discussed in detail.

Venous Pressure. By J. A. Eyster, M.D., The Macmillan Co., New York. 1929. Pp. 135. Price, \$2.50.

An interesting presentation on the clinical aspects of venous pressure—a neglected subject. The author points out that the venous pressure is important in present and impending cardiac decompensation from any cause. Venous pressure is the most direct indication of the extent to which the heart is moving its load of blood from the venous to the arterial side of the circulatory system. The author states that the determination of venous pressure by the indirect method of vein compression is accurate and can be quickly carried out. In chapter three, methods for the clinical determination of venous pressure are considered. The author's apparatus, recently designed for clinical use, is described in detail.

The Household Medicine Glass

Dr. T. R. E. Hillier (London, N. W.) writes: A very large number of people nowadays use a medicine glass in place of the "domestic" measures—namely, the teaspoon, dessertspoon, and tablespoon. Theoretically, this is a step in the right direction, but let us see what it means in practice. I should say that 99 per cent of the medicine glasses in use by the layman (and by some doctors!) are in the shape of a diminutive tumbler. These are quite accurate when it is required to measure an ounce or half ounce, but I defy anyone to measure accurately a drachm with one—an ordinary teaspoon is preferable, though the size of these spoons varies a good deal. Now many medicines are prescribed in drachm doses, particularly in the case of children where the need for accuracy is even greater. There is only one common-sense form of glass, and that is a conical one, with a broad substantial base, marked clearly in teaspoons and tablespoons. Conical measures can, of course, be obtained, but they are almost invariably marked in drachms and ounces—of little use to the ordinary lay person. Moreover, people usually take what is offered them, and this is always the "little tumbler." Bottles marked with the doses may be suggested as a remedy, but most people pour out too much and will not be bothered to replace the excess, or too little, thinking it will be "near enough." All this may appear very obvious, but nevertheless I have proved it to be a matter of considerable importance.—*Brit. M. J.* 1: 534, 1929.

Chickenpox Complicated by Acute Nephritis

E. Rankin Denny and B. M. Baker, junr., report an interesting case of chickenpox complicated by acute nephritis, associated with hemolytic streptococcal infection of the tonsils. Nephritis rarely occurs during the course of chickenpox, and in this instance it came on during the relatively infrequent hemorrhagic type of this eruptive disease. Without a careful bacteriological study of the fauces and the urine, the organisms isolated from which had common cultural characteristics, it might have been supposed that the hemorrhagic nephritis was in some way directly associated with the attack of varicella. Though it seems probable that the organisms must have reached the kidneys by way of the blood stream, it is of interest to note that a blood stream infection was not demonstrable by blood culture during the early stage of the streptococcal infection.—(*Bulletin of the Johns Hopkins Hospital*, March, 1929, p. 201.)